FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

A Reuben H. Donnelley Publication

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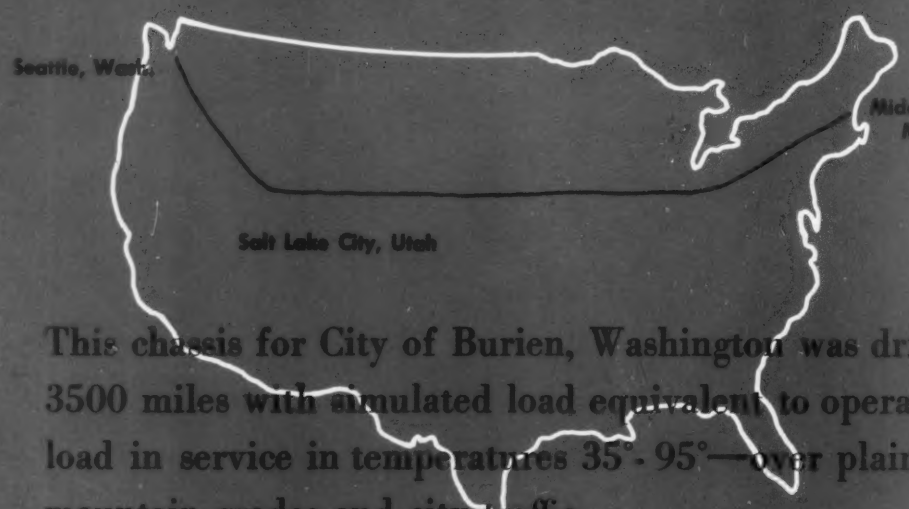
Wreckage of Engine No. 5, Roseburg, Ore., Fire Department is mute evidence of terrific blast which rocked city early on the morning of August 7 (see story on page 930)—Photo by Edmund Y. Lee

from Coast to Coast

MAXIM PUMPER CHASSIS

Proves Performance



This chassis for City of Burien, Washington was driven 3500 miles with simulated load equivalent to operating load in service in temperatures 35°-95°—over plains—mountain grades and city traffic.

MAXIM MOTOR COMPANY, MIDDLEBORO, MASS.

PA1 siren with CP24 streamlined, chrome plated speaker, especially suited for fire equipment. Speaker is smaller and slightly more compact than FEDERAL'S *famous* WG siren.

Full details are given in our Bulletin #325. *ASK FOR IT TODAY!*

"SOUND" INVESTMENT!

ANY EXPENDITURE THAT SAVES MONEY OR EARNS MONEY IS AN INVESTMENT!

The purchase of a FEDERAL INTERCEPTOR Siren is an investment, a "sound" investment! Here's why:

1. LOW CURRENT CONSUMPTION

Eliminates the need for oversize batteries and, in many cases, expensive generator equipment.

2. REDUCES INSTALLATION EXPENSE

Eliminates need for expensive, extensive wiring. Light weight components require no body reinforcement for installation.

3. MINIMUM MAINTENANCE EXPENSE

The INTERCEPTOR requires almost no attention and creates no perceptible drag on the cars electrical system. Reduces general electrical maintenance.

4. CORRECTLY UTILIZES SOUND OUTPUT

The INTERCEPTOR Siren directs the sound forward, where needed, and generates 95 decibels at 100 feet.

5. FREE VOCAL TRAFFIC CONTROL

The Public Address feature of the INTERCEPTOR Siren *Costs you no more,* but gives you *ample vocal authority* enroute or at your destination. *Free audio amplification;* you pay no more to have your radio reception *amplified* when you are away from your vehicle.

6. OCDM APPROVED

The INTERCEPTOR is officially approved and certified by OCDM as a mobile PA System. This makes it eligible for the "matching funds" program that can save you half the purchase price.

The INTERCEPTOR mounts under the dash and requires no special locating or cooling provisions. Functions instantly. Has "true" siren sound. Excellent "voice characteristics". A real triple combination—SIREN—PA—AUDIO AMPLIFIER. Four speaker styles optional.

A REAL ADVANCE IN SOUND—AND A "SOUND" INVESTMENT!

FEDERAL SIGN and SIGNAL Corporation

13602 S. Western Ave., Blue Island, Ill.

FIRE ENGINEERING

VOL. 112 OCTOBER, 1959 NO. 10

IN THIS ISSUE

It Can Happen Anywhere—An Editorial 929
By Donald M. O'Brien

Roseburg Explosion Wipes Out Four-Block Area 930
By Roi B. Woolley

High-Volume Fog Nozzles Tested 933

Grand Rapids I.A.F.C. Conference Carries on Great Tradition 934

Does Weather Influence Urban Fires? 938
By Arthur R. Pirsko

Cyclonic Fire Destroys 38 Homes in Hollywood's Laurel Canyon Area 940
By Cliff Dektar

How History Can Help the Fire Service 941
By Richard L. Heath

Fighting Fire in Fur Storage Vaults 942
By Harry J. Sommers

What Caused the Pentagon Fire? 944

Grain Elevator Gives Toledo a Hot Fight 1003
By Ashley Gunn

American LaFrance History Parallels Growth of the Fire Service 946

DEPARTMENTS

Manufacturers' News	972	**The Round Table**	988
False Alarms	976	**What's Burning**	992
Persons in the News	978	**World-Wide Fire News**	994
Among the Buffs	986	**Annual Reports**	1001

A New Use for "New Products"

We know that for years our "Manufacturers News" section, with its description of new products and processes, has been an invaluable aid to fire officials and municipal purchasing agents. Some of our readers in the fire service, however, have evidentally discovered a new use for this section of FIRE ENGINEERING.

This was brought to our attention by a recent letter from a lieutenant in a western fire department. After mentioning the problem of selecting interesting material for station drills and company school, the officer describes how a brother lieutenant, using the Fire Chiefs' Conference and Buyers' Guide Issue, listed three pages of new products of interest to the 14 men at the headquarters station.

This new use of this section of FIRE ENGINEERING is not as far-fetched as it might at first seem. Every efficient fire fighter is thoroughly familiar with the equipment carried by his unit and its diverse uses. Study of new products and processes, however, may offer the solution to a vexing local problem well beyond the scope of the equipment at hand.

We believe that this recent letter is one more testimonial that FIRE ENGINEERING, not only in feature articles but in all its columns, is giving the fire service up-to-the-minute information on developments in the field as it has for more than 80 years.

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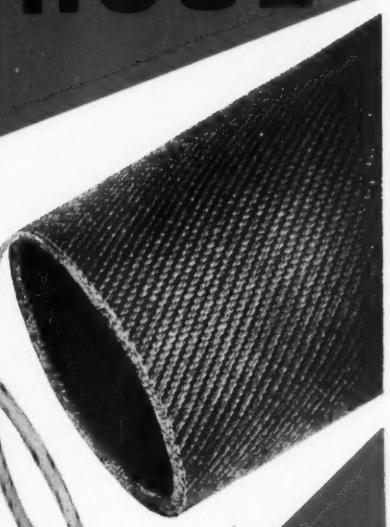
Fabric FIRE HOSE

PRESENTS



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WEATHERMATE PROTECTION

AND

PRES-R-LOCK COUPLINGS

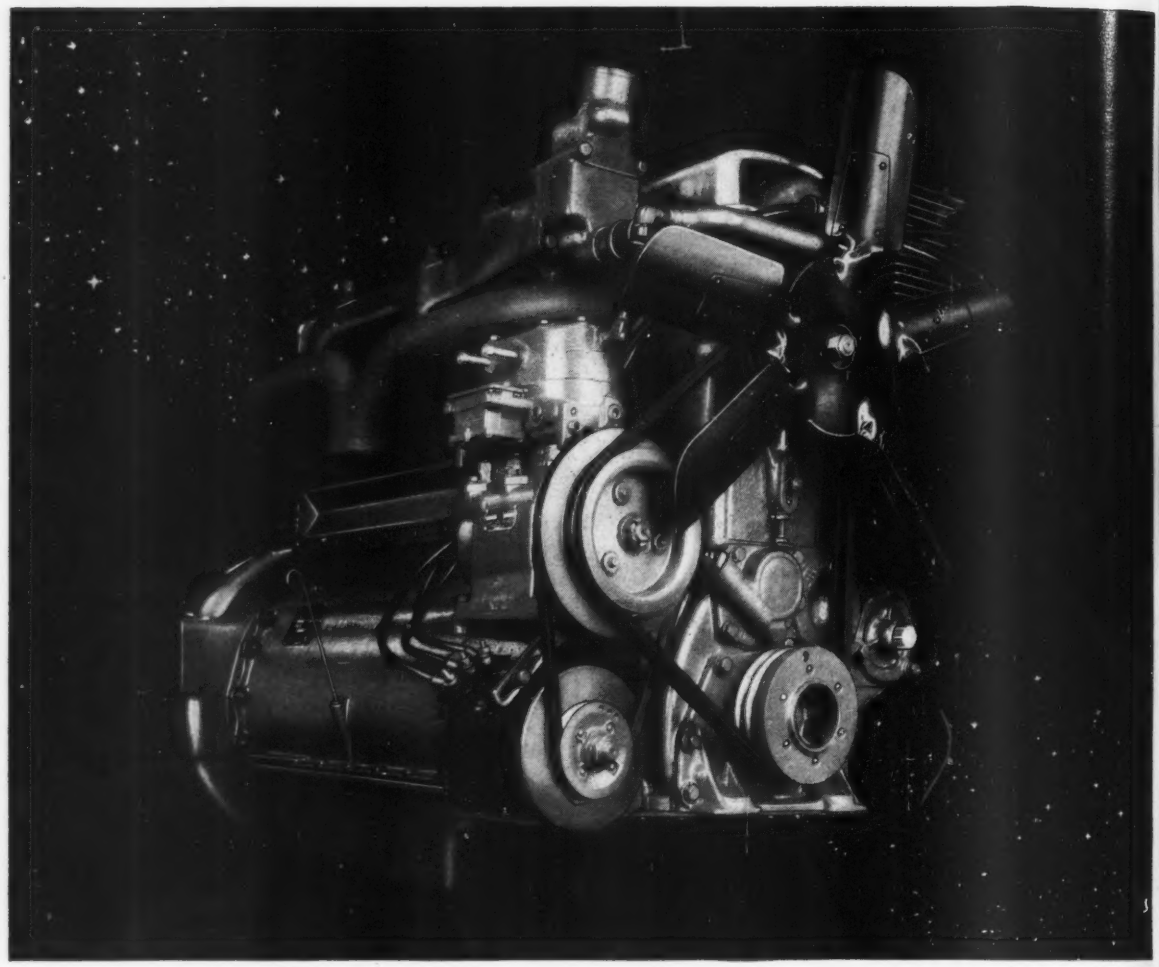
WRITE US or CONTACT YOUR Authorized FABRIC Representative

FABRIC FIRE HOSE COMPANY

EXCLUSIVE MANUFACTURER OF FIRE HOSE SINCE 1869

SANDY HOOK, CONN.

IN CANADA *Pierre Thibault* CANADA, LTD., LTEE., PIERREVILLE, QUEBEC



You, too, can own the finest engine made for fire apparatus

Hall-Scott engines in full-scale production at Hercules Motors' Canton plant

There's a pride of ownership associated with Hall-Scott engines that no other power source can inspire. Fire chiefs operating Hall-Scott equipped vehicles know the dependable service and unequalled performance that come from owning the finest . . . and many more will know it soon. For Hercules Motors Corporation has taken over the Hall-Scott engine line: is making these precision-built power plants available to more users across the nation.

Hercules is now producing the famous Hall-Scott Fire Chief (240 h.p.) and Super Fire Chief (324 h.p.) models in quantity. You can own a Hall-Scott engine in the next piece of equipment you order: all major apparatus manufacturers will supply this quality power-plant to your specifications. And service is at your doorstep through Hercules' strategically located distributor network. Write today for descriptive bulletins on Hall-Scott engines for fire service.

HERCULES

HERCULES MOTORS CORPORATION
Canton, Ohio

HERCULES ENGINES . . . *Sold and Serviced the World Over*

New high-pressure fog hose is light, flexible, compact

Extra-strong booster hose developed for American LaFrance pumpers

WITH high-pressure fog equipment, one gallon of water has the fire-killing capacity of at least 10 gallons pumped through a regular fire hose. The fine mist cools, smothers and isolates flames, keeps small fires from getting out of hand.

When this type of fire fighting first started, B.F.Goodrich developed what's called a "booster" hose that could take the pressure used then. But as pumps got more and more powerful, equipment makers needed even stronger hose.

American LaFrance asked for a hose capable of standing 1000 pounds working pressure. B.F.Goodrich engineers went to work on the problem. They developed a rubber-covered hose and a method of reinforcing it with new high tensile cord. The result is an extra-strong hose easily able to stand the 1000-pound pressure. What's more, the extra strength was built into the hose without making it heavy or bulky. This B.F.Goodrich hose is light, small in diameter, extremely flexible. More of it can be carried on each reel.

Today, B.F.Goodrich booster hose is standard equipment on the newest, most modern American LaFrance high-pressure equipment. Now where there's fire there's apt to be fog—and more quick "outs", less damage to property.

This new hose is typical of the improvements constantly being made in all the different kinds of fire hose B.F.Goodrich makes. *B.F.Goodrich Industrial Products Co., Dept. M-732, Akron 18, Ohio.*

B.F.Goodrich *fire hose*

Ever fight a fire in Venezuela?

Boardman has . . . via two long distance fire fighters like this one that keep a 24-hour vigil at remote Venezuelan refinery sites of a major American Oil company.

Boardman fire fighters keep watch over the main streets and industrial sites of over 200 American cities, too, with *dependable, economical* emergency protection. Boardman pumpers have the equipment and features *your* city needs, mounted on a standard chassis of your choice for quick local service. Dependable Waterous pumps assures the right capacity for your needs —at far less than a "custom-built" price.

Let Boardman answer your city's fire alarm! Write for the illustrated brochure, or call Oklahoma City, MElrose 4-5434 today. A Boardman fire apparatus engineer is waiting to help you.

BOARDMAN PUMPERS

THE BOARDMAN CO
P. O. BOX 1152
Oklahoma City

INDIAN

FIRE PUMPS COMPLETE YOUR TRUCK EQUIPMENT!

…ks without INDIANS — *like hot dogs without mustard* — are …mplete! Now is the time to add INDIAN FIRE PUMPS to your …paratus. Rugged, portable INDIAN FIRE PUMPS are the biggest …ar value you can buy in fire protection equipment.

…y will handle as much as 40% of your calls — many 20 years … are still in use — replacement parts are available instantly … and they use only CLEAR WATER!

…member* — there is only one INDIAN FIRE PUMP! Insist on …DIANS — *they have no equal.

No. 90 INDIAN

(Sliding Pump Type)

…e have improved the brass sliding pump on the No. 90 INDIAN … that a boy can use it with ease at all times. When you buy your …ext lot of INDIANS you will be very much pleased with them and …ou will find it is a pleasure to operate them.

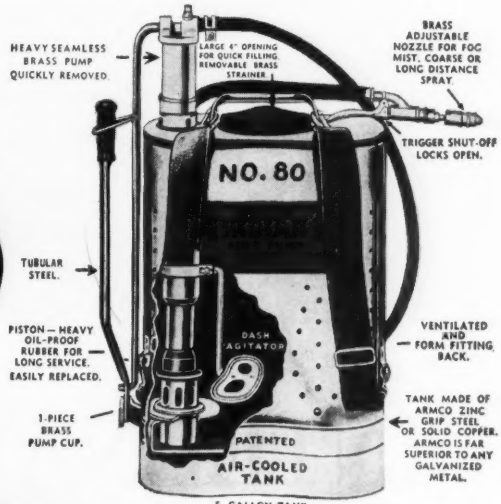
Both Types Approved by Underwriters' Laboratories.

Fire fighting authorities who have experimented with a "WET WATER" powder mixed with the water in an INDIAN FIRE PUMP tank report it does an excellent job.

No. 80 INDIAN

(Lever Type Pump and Handle)

Heavy steel pump lever. Ventilated tank. 5 gal. capacity. Continuous high pressure. Armco zinc-grip steel or glistening solid brass tank. Strongest construction throughout. Has no equal.


HEAVY SEAMLESS BRASS PUMP QUICKLY REMOVED.
LARGE 4" OPENING FOR QUICK FILLING. REMOVABLE BRASS STRAINER.
BRASS ADJUSTABLE NOZZLE FOR FOG MIST, COARSE OR LONG DISTANCE SPRAY.
TRIGGER SHUT-OFF LOCKS OPEN.
NO. 80
TUBULAR STEEL.
PISTON — HEAVY OIL-PROOF RUBBER FOR LONG SERVICE. EASILY REPLACED.
DASH AGITATOR
VENTILATED AND FORM FITTING BACK.
1-PIECE BRASS PUMP CUP.
PATENTED
AIR-COOLED TANK
TANK MADE OF ARMCO ZINC GRIP STEEL OR SOLID COPPER. ARMCO IS FAR SUPERIOR TO ANY GALVANIZED METAL.
5-GALLON TANK

D. B. SMITH & CO. *"for Over 70 Years the Leaders"*

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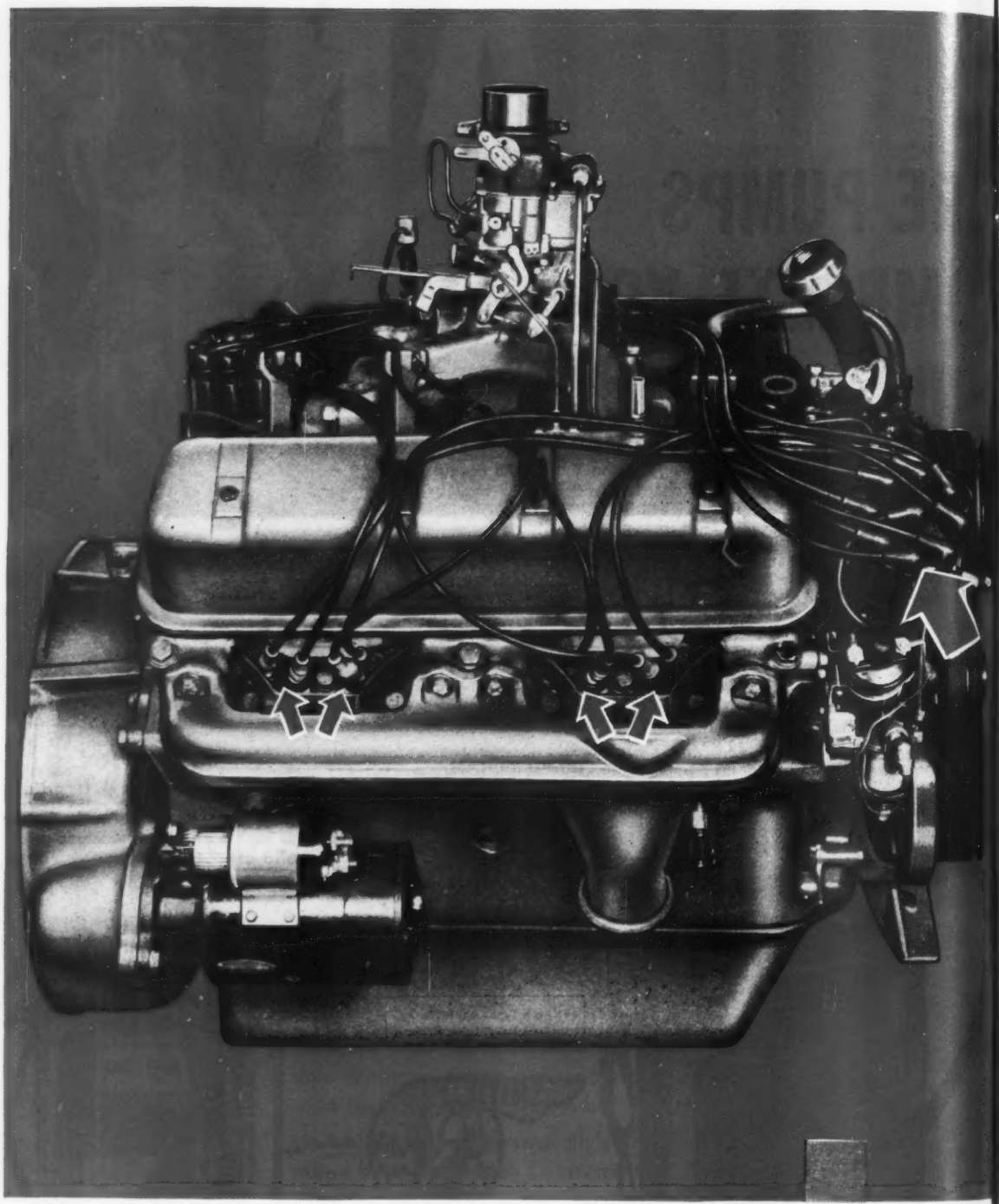
TYPICAL TESTIMONIALS IN OUR FILES

- *"I can honestly say that **INDIANS** are worth their weight in gold".*
- *"We consider **INDIAN FIRE PUMPS** to be the most important equipment in our department".*
- *"We use nothing but **INDIANS** for a portable extinguisher. They're the best".*

SEND FOR NEW CATALOG!



INTERNATIONAL® TRUCKS

WORLD'S MOST COMPLETE LINE

International Harvester Company, Chicago
Motor Trucks • Crawler Tractors
Construction Equipment • McCormick® Farm Equipment and Farmall® Tractors

Now

INTERNATIONAL GIVES YOU DUAL DEPENDABILITY

with new 3-stage dual ignition and honest rated V-8 horsepower!

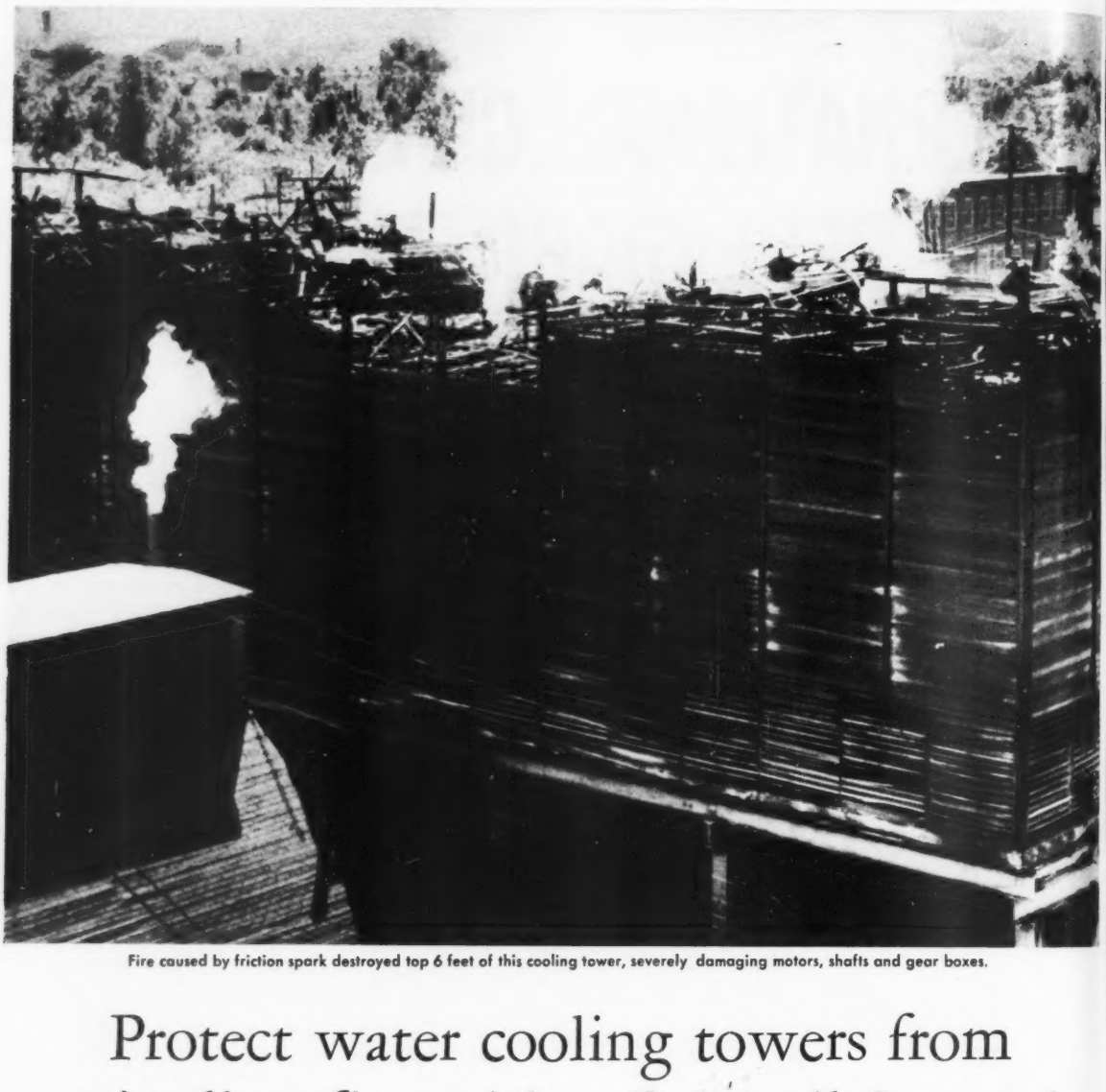
Here it is, Chief! The hit of the recent annual convention of the International Association of Fire Chiefs! The first dual ignition and V-8 engine combination ever put under the hood of a fire truck chassis by any volume truck manufacturer.

New INTERNATIONAL 3-stage design gives high spark by firing both sets of plugs simultaneously or either set individually. All you do is turn the key for instantaneous action. You're always assured of a truck that's going to act surely and fast!

Combine this outstanding new dependability feature with your choice of 461 or 549 cu. in. INTERNATIONAL V-8's that offer up to 257 hp. . . . truck engines respected by fire engineers because of their honest hp. ratings ever since they were first introduced. You get pumper ratings that do what they say, pumper pressures that do what they're supposed to do! Pumping capacities to 1,250 GPM!

Get the dependability you pay for! See your INTERNATIONAL Dealer today and let him help you answer your fire equipment problem. He offers the trucks (from 18,000 to 33,000 lbs. GVW) and the truck specialist know-how to give you the dependability you demand in your job!

INTERNATIONAL Model V-190 (shown above) is available with choice of manual or semi-automatic Select-O-Matic transmission, five axles, 401, 461 or 549 cu. in. V-8 engines (dual ignition on V-461 and V-549). INTERNATIONAL also offers COE or conventional cab design models. There's a range of "six" and V-8 engines from 141 to 257 hp. You can get anything from rescue units on up with accessory options to meet exact needs.



Fire caused by friction spark destroyed top 6 feet of this cooling tower, severely damaging motors, shafts and gear boxes.

Protect water cooling towers from crippling fire with a Grinnell System!

Why are cooling towers so vulnerable to fire? Because they are largely made of wood. It is true that when the tower is operating, most of the wood is wet. But roof and sides can become excessively dry through exposure to the sun. Also, there is a portion of the tower above the cooling water distribution system that is never wet. Common causes of fire include defective wiring, overheated bearings, and lightning.

Moreover, fire may strike when the tower not only is shut down, *but even while it is in use*. One insurance company has stated that nearly half its tower losses occurred when they were in operation!

The best protection against an unexpected blaze in water towers is a Grinnell Water Spray or Automatic Sprinkler System, engineered by Grinnell to protect against fire, no matter how it may start. Grinnell engineers are well qualified . . . backed by a company with 89 years experience in the fire protection field. For complete information, write Grinnell Company, 260 West Exchange Street, Providence 1, R. I.

GRINNELL

Fire Protection Systems Since 1870

NOW FIRE-KILLING WALLOP

AND "FIRST-OUT" MOBILITY

John BEAN Auxiliary Fire Fighters with High Pressure Fog

- *GET TO FIRES FASTER*
- *GO ANYWHERE — IN AND OUT OF TIGHT PLACES*
- *BE IN ACTION SECONDS AFTER REACHING FIRE SCENE*
- *CONTROL OVER 90% OF ALL BLAZES, BEFORE THEY DEVELOP INTO BIG FIRES*
- *LOWER INITIAL COST*
- *FIGHT GRASS, BRUSH AND FOREST FIRES ON THE RUN*

BEAN JEEP

These compact, hard-hitting fire fighters have the speed and mobility to get to fires faster and are ready for action within seconds after reaching the scene. A 2-man crew, each man armed with a John Bean High Pressure Fog line, pours on a fire-smothering fog immediately upon arriving at the blaze. The triple-action high pressure fog (650-750 or more psi at the gun) cools, isolates and smothers all types of fires, enabling faster, more effective control. They are ideal for the fast knockout of forest, grass and brush fires even on the run!

Municipal departments find these John Bean Auxiliary Fire Fighters ideally suited as a "first out" truck, particularly for still alarms. Rural areas find that their mobility, economy and fire-killing punch are the perfect answer to their protection problems. See the Bean Jeep and Little Bean Models in action and you'll see your fire protection problems solved.

Little Bean MODEL FC-170

SPECIFICATIONS

HIGH PRESSURE PUMP: 60 gpm with 850 psi at the pump; 650-750 or more psi fog at both guns simultaneously. Automatic Relief Valve: 1000 psi pressure gauge.

DRIVE: Transmission power take-off allows pump to be operated at full pressure with truck in motion.

TANK: Bean Jeep has 200 gal. tank; Little Bean a 250 gal. capacity tank. Both tanks are cross baffled to prevent water surge, have corrosion-resistant coating; six inch filler opening and a removable top for easy access.

HOSE: Two 100' lengths of high pressure hose, one on each reel. Swivel connections to guns and reels.

REELS: Two, drum type with 200' capacity each. The reels are spring loaded with horizontal and vertical guide rollers.

GUNS: Two patented Bean High Pressure Fog Guns with easy pattern control from fog to straight stream.

ACCESSORIES: A full range of accessory items are available to meet your requirements.

CHASSIS: Little Bean apparatus can be mounted on most one-ton truck chassis, standard or 4-wheel drive. Bean Jeep has all-wheel drive.

BODY: Reinforced construction for rugged rural service. Approved non-skid tread plate rear platform.

A John Bean representative can arrange for a fire fighter demonstration in your community (a few locations excepted). Write for details today.

ALSO WRITE FOR FREE FIRE FIGHTER CATALOG

JOHN fmc BEAN

FOOD MACHINERY AND CHEMICAL CORPORATION

Lansing 4, Michigan San Jose 1, Calif.

ORIGINAL FOG FIRE FIGHTING GUN

Food Machinery and Chemical Corporation

Now...no need

Shown here is a fire company washing down hose of "Dacron" after a fire and loading it on the truck wet—ready for the next action.

FIRE HOSE MADE WITH "DACRON" IS EASIER TO HANDLE...

to dry your hose!

New municipal fire hose with jacket made entirely of DACRON®
POLYESTER FIBER

is not damaged by mildew

It's the greatest labor saver since firemen stopped pumping by hand — fire hose that can be packed wet without danger of rot or mildew! The reason—new jackets made *entirely* of Du Pont "Dacron"* polyester fiber.

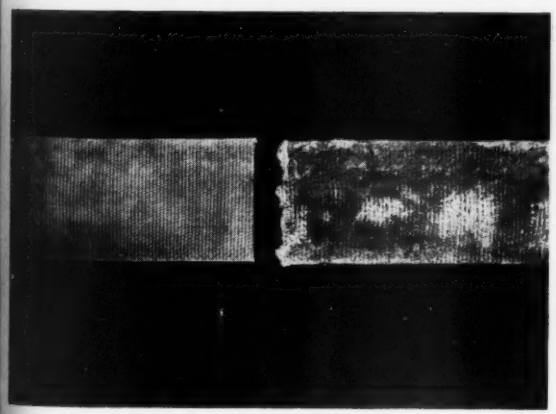
Tests show new hose of "Dacron" is not weakened or damaged by mildew . . . eliminates the need to dry or change hose after each run . . . lets you stand ready to answer calls without delay.

At the scene of a fire, where every second counts, rugged hose of "Dacron" saves you precious time. It absorbs little water . . . remains easy to handle . . . gets into action fast. And hose of "Dacron" stubbornly resists damage from abrasion or chemicals to give years of dependable service.

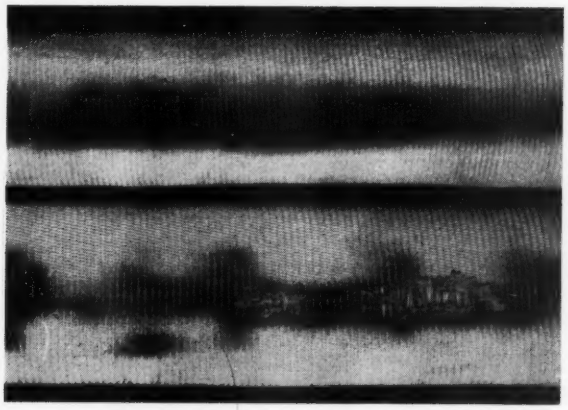
Next time you buy hose, be sure you buy the best—hose with jackets of all "Dacron". It's produced by leading hose manufacturers. For their names, write: E. I. du Pont de Nemours & Co. (Inc.), Textile Fibers Department, Wilmington 98, Delaware.

*"Dacron" is Du Pont's registered trademark for its polyester fiber.

SEE FOR YOURSELF HOW "DACRON" RESISTS DEGRADATION



BURIED 27 DAYS in moist, warm soil, hose with a jacket made of "Dacron" (left) was unaffected. In hose jacketed with "Dacron"/cotton (right), the "Dacron" filler cords remained intact and unaffected by mold or bacteria, while the cotton was severely damaged.



DRAGGED 2.5 MILES over asphalt road, hose with jacket made entirely of "Dacron" (top) stubbornly resisted damage from wear and abrasion. Hose with jacket made of cotton (bottom) was severely worn and abraded and was rendered unserviceable.

DU PONT
REG. U. S. PAT. OFF.

For more about Fire Hose of "Dacron", watch the November 9 commercial on "The Du Pont Show of the Month", on CBS-TV

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

GIVES IMPROVED PERFORMANCE...PACKS MORE COMPACTLY

MIDWESTERN

Safety Clothing for Firemen

The Original STRIPED SAFETY COAT

. . . was introduced 17 years ago and has been a leader ever since its introduction. There have been many imitations and substitutes offered but the ORIGINAL with the YELLOW stripes rubberized into the black rubber has stood the test against the makeshift models where the stripes are glued, sewed or painted on the material.

Protection, Comfort and Service are built into every detail of this coat. Many lives have been saved and accidents avoided in departments where the ORIGINAL MIDWESTERN SAFETY COAT is specified as standard equipment.

COLLAR — Close fitting around neck, up or down. Keeps out water and sparks. Rubberized outside, corduroy inside, cemented firmly so water can't lodge between. Adjustable strap fastener.

BODY — Only 2 pieces — one middle back seam.

SLEEVES — New style with vertical seams. Originated and designed by Midwestern for use in fire garments. Easy to get into fast. Won't tear out when carrying hose or other equipment on shoulder. Flexible, elastic inner sleeve for wrist.

STORM FLAP — 6-inch flap on front of coat keeps out cold and water.

SNAPS — 5 new Midwestern safety snaps.

SEAMS — All double stitched and cemented with layer of rubber cement. No water can penetrate through needle holes. Reinforced with rivets in all places subject to extra strain.

POCKETS — One extra large inside pocket, regular.

COMBINATION SAFETY SUIT

The Midwestern Rubberized Coat and Bunker Pants make it easy for firemen to keep both warm and dry even in the most severe weather. Close fitting collar and elastic inner sleeve keep out sparks and water. Detachable wool lining. Pants have double-stitched seams, reinforcing rivets at points of strain, large roomy pocket space.

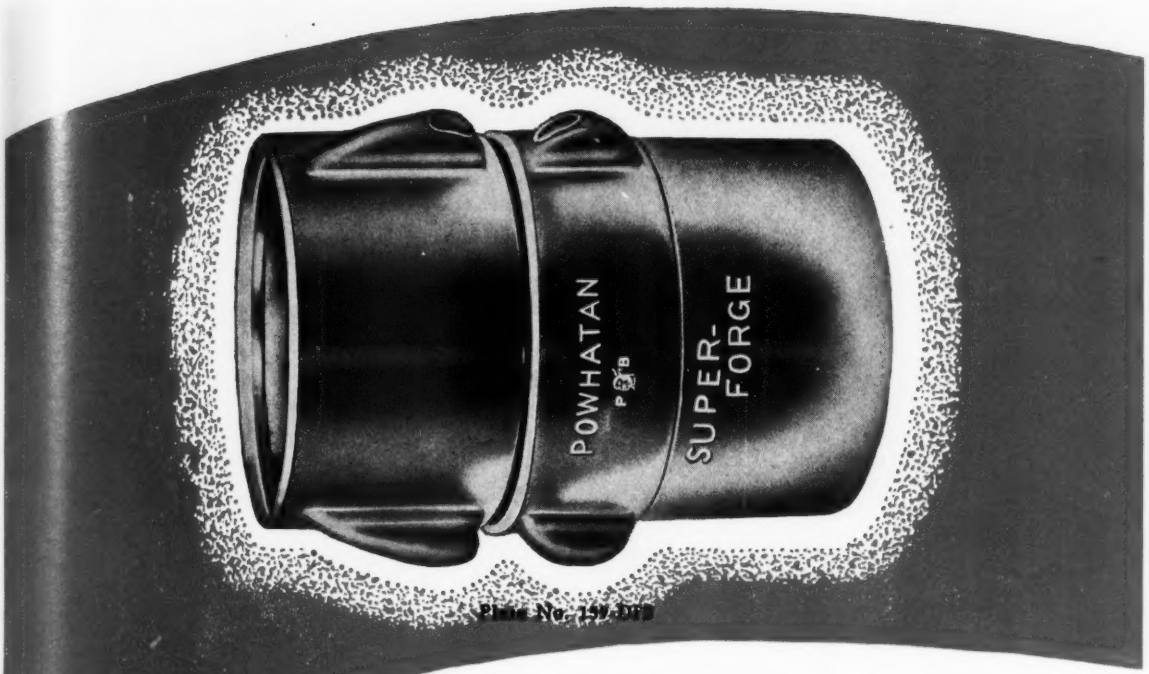
See your MIDWESTERN dealer or WRITE for Free Catalog and fabric samples

NONE GENUINE WITHOUT THIS TRADE

MIDWESTERN SAFETY MFG. CO., Mackinaw, Ill.

Located in the heart of the Greater Peoria Manufacturing Area

Manufacturers of the Famous MACKINAW Safety Coat



SPECIFY

Powhatan

"SUPER-FORGE"

DROP FORGED BRASS COUPLINGS

LIGHT WEIGHT

NON-CORROSIVE

DURABLE

THREE "SENSIBLE LUGS" ON BOTH MALE AND FEMALE WITH HIGBEE INDICATORS

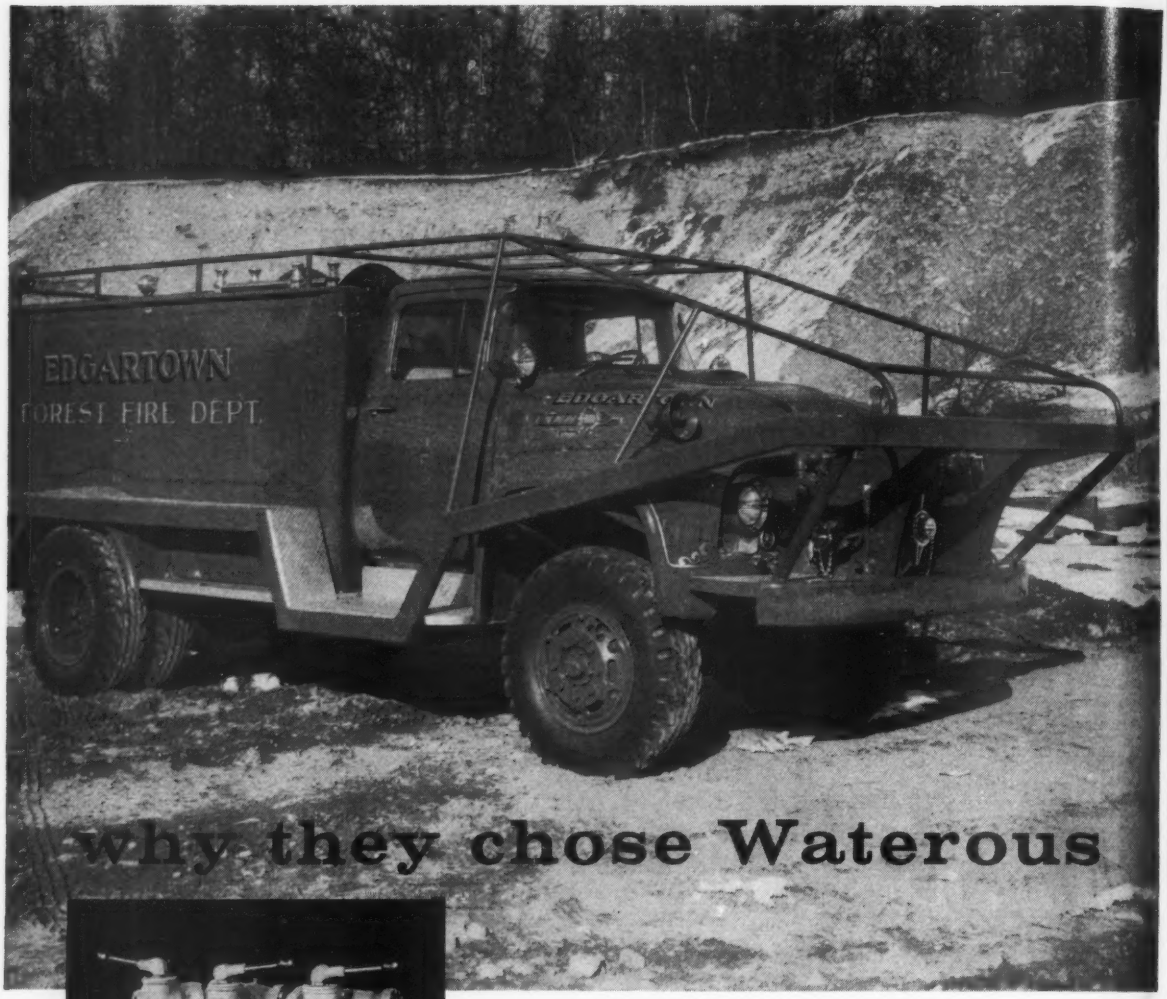
Available in 1½ and 2½ inch sizes

POWHATAN BRASS & IRON WORKS

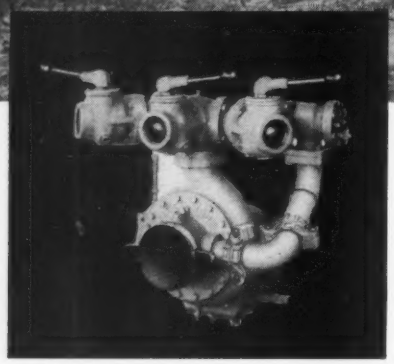
RANSON, WEST VIRGINIA

OUR SIXTY-SEVENTH YEAR

In The Same Location Since 1892



why they chose Waterous



Model CF-4 pumps more gallons per minute than any other service-proven, front-mounted pump

WATEROUS' front mounted CF-4 has a 750 GPM Class A Fire Underwriters' rating. Its three 2½" lines for structural fires mean lower insurance rates in most communities.

The CF-4 is a simple, compact unit that can be front mounted on any standard truck chassis. Its impeller shaft assembly is ball bearing-mounted—hydraulically and mechanically balanced to operate smoothly over its entire range—makes use of the truck engine's coolant for winter heating. An over-center, single-plate dry clutch permits positive engagement or disengagement at any engine speed. It's just like the clutch in the truck itself.

Where the advantages of a front-mounted pump are desired, the CF-4 provides superior performance and unmatched reliability.

For complete information on the CF-4 and other WATEROUS fire pumps write:

WATEROUS *80 E. Fillmore Ave., St. Paul, Minnesota, Dept. 309*

when you buy "PRICE" you get your feet wet!

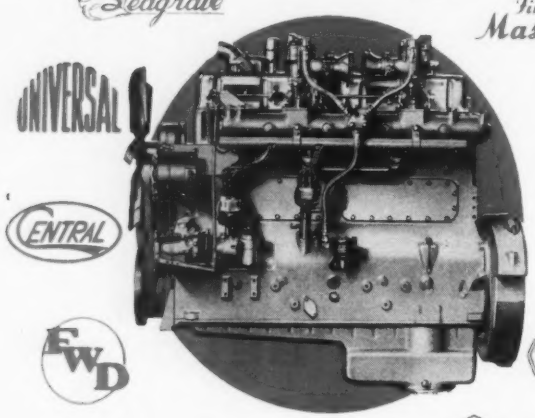
It's easy to *look* economical when you buy cheap fire hose . . . but how do you look when hose splits at a fire . . . when it won't reach 'cause you can't fold enough onto the pumper . . . when you have to re-order within a year . . . when *you walk into the council room with wet feet?*

FIRE HOSE IS LIKE AN **ICEBERG** MUCH OF ITS VALUE IS **BELOW** THE SURFACE

Bi-Lateral®
FIRE HOSE COMPANY

20 NORTH WACKER DRIVE • CHICAGO 6, ILLINOIS

FIRST
in fire fighting



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Fire Master Corp.

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HOWE

Model 145-GZB—300 hp range
High-Output Fire Fighter—

Six cylinders, 5⅜-in. bore x 6-in. stroke; 817 cu. in. displ., with counterbalanced and vibration dampened 3½-in. 7-bearing crankshaft; dual downdraft carburetion; dual ignition; precision extra high capacity bearings; removable wet type cylinder sleeves, aluminum pistons, overhead valves with Stellite-faced exhaust valves and seats. Arranged for full electrical equipment and all modern accessories. Get Bulletin 1662.

WAUKESHA MOTOR COMPANY, WAUKESHA, WISCONSIN
New York • Tulsa • Los Angeles
Factories at Waukesha, Wis., and Clinton, Iowa

439-R

WAUKESHA fire fighter ENGINES

New, Bonded All-Dacron* Ambassador Ranks best in tortuous abrasion test!

50-foot lengths of hose were dragged on asphalt pavement at speed of 5 miles per hour. Test included 5 types of 2½" hose: 1. Fyr-Fyter 100% Dacron, Tuff-Weave industrial, single jacket; 2. Dacron/Cotton, double jacket; 3. Cotton, double jacket; 4. 100% Dacron, double jacket (unbonded); 5. Fyr-Fyter Ambassador, 100% Dacron, BONDED *double jacket.*

Inside jacket was exposed in hose No. 2 and No. 3 at 3 miles; in hose No. 4 at 6 miles. Test was stopped after 10 miles. All hose except Nos. 1 and 5 appeared to have exceeded their maximum service life. Burst tests further proved Nos. 2, 3 and 4 unserviceable. Hose No. 1 and No. 5 showed no appreciable loss in burst strength!

This tortuous test proves you can expect more durability and longer service life from Fyr-Fyter's new Ambassador Hose. Its rugged resistance to dragging and scuffing is due to an entirely new way of fabrication. Both inner and outer jackets are 100% Dacron which makes them practically immune to wear. The two jackets are also permanently rubber bonded. This means they can't slip or rub to cause any concealed wear. The bonding also gives added falling ember protection. Bonded, 100% Dacron hose is an exclusive product of Fyr-Fyter!

NO DRYING REQUIRED

The extremely low absorbency of all-Dacron jackets eliminates drying operations, and also the need for stand-by hose. Rack it right after use with no fear of mildew.

Other outstanding Ambassador features include lighter weight for easier handling, amazing strength without bulk, flexibility without kinking, compactness and resistance to chemicals. Write today for complete details and prices. *•DuPont trademark for its polyester fiber.*

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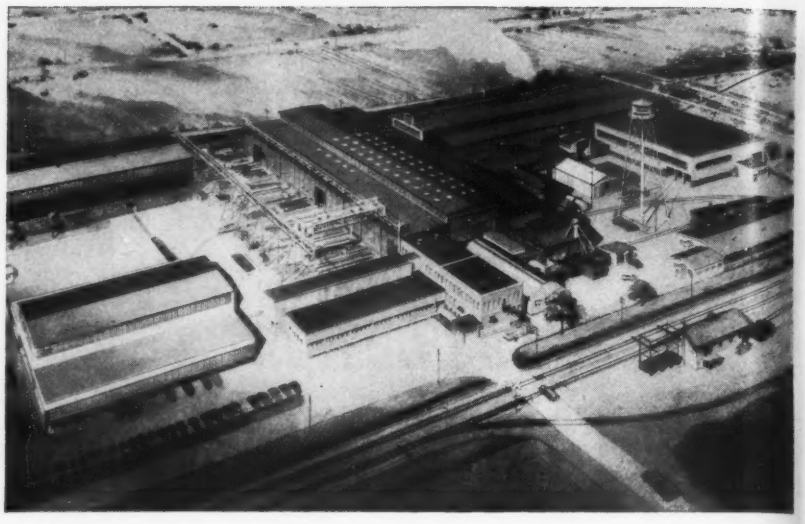
Fyr-Fyter

"ADT Automatic Protection provides us with dependable safeguards against fire in every section of our plant. We are happy to relate that we are obtaining this protection at a saving of approximately $12,000 annually."

William J. Ryan

Assistant General Manager



THE CLEVELAND CRANE & ENGINEERING CO., Wickliffe, Ohio

Uses ADT *Automatic* protection and *saves $12,000 a year!*

World-famous for its line of overhead cranes, overhead materials handling equipment, and Steelweld press brakes and shears, Cleveland Crane must keep production rolling to meet the big demand for its products.

To safeguard property, profits, and the lives and jobs of employees, the 232,000 square feet of plant space is equipped with automatic sprinklers, backed up by ADT Automatic Protection which summons the fire department whenever the sprinklers operate.

This efficient fire-fighting combination makes it possible to obtain greatly improved protection at lower cost by rearranging the hourly patrols required in a plant of this size, effecting a saving of $12,000 a year.

You, too, can enjoy better protection and substantial savings through use of ADT Automatic Protection Services. Whether your premises are old or new, sprinklered or unsprinklered, the appropriate combination of ADT Automatic Services will protect you against fire, burglary and other hazards—and at lower expense than less effective methods.

Call the ADT office listed in your phone book, or write our Executive Office.

ADT

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A NATIONWIDE ORGANIZATION

Executive Office: 155 Sixth Avenue, New York 13, N. Y.

MOTOROLA
"Handie-Talkie"®

2-WAY POCKET RADIO

pocket receiver (actual size)

All new... makes your fire fighters a closer working, *better* working "team"

Now fire departments can utilize radio more fully than ever. Instant 2-way communication with key personnel afoot—on all "fronts"—means complete coordination and greater-than-ever fire-fighting efficiency.

Here are individual receivers and transmitters that can be carried in the pocket or worn on the belt to give excellent local 2-way coverage.

The new "Handie-Talkie" Pocket Receiver is fully transistorized for low power drain and high reliability. With the most powerful audio output available, messages can be clearly heard even in noisy areas. Available with rechargeable battery, or standard mercury cells which give up to 200 hours of operation. Write for complete information today.

The companion "Handie-Talkie" Pocket Transmitter has 2 to 4 times the power of similar units. With the Pocket Receiver you can have complete, lightweight, *personal* 2-way radio communications.

MOTOROLA 2-WAY POCKET RADIO

Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago 51, Ill. • A Subsidiary of Motorola Inc.

SAFELY!

Equipment made of New Fabric Reflects 90% of Radiant Heat

How fast could you knock out a fire if you could move in really close . . . and stay there? Look at these men—they're in close and holding their ground. They're protected by equipment made of 3M Aluminized Fabric that bounces off intense heat.

An entirely new concept in heat protection is offered by flexible, long-wearing 3M Aluminized Fabric that reflects 90% of radiant heat. And it's 50% lighter than ordinary materials that only insulate against radiant heat.

Complete 3M Aluminized Fabric suits offer protection against 2000° F exposures to permit fire fighting and rescue operations never before possible under such conditions. Crash crews are able to penetrate the intense heat of burning aircraft for rescue work—*proof* of 3M Aluminized Fabric's reflective-protective qualities!

For safety's sake, see—test this amazing new material that is specified by military departments, used by modern city and industrial fire departments and rescue squads.

3M Aluminized Fabric is available in hoods, gloves, coats, full suits and salvage covers. Send coupon for free booklet "When It Takes More Than Courage".

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Please send free booklet about "Scotch • shield" Aluminized Fabric, "When It Takes More Than Courage."

Name_____ Title_____

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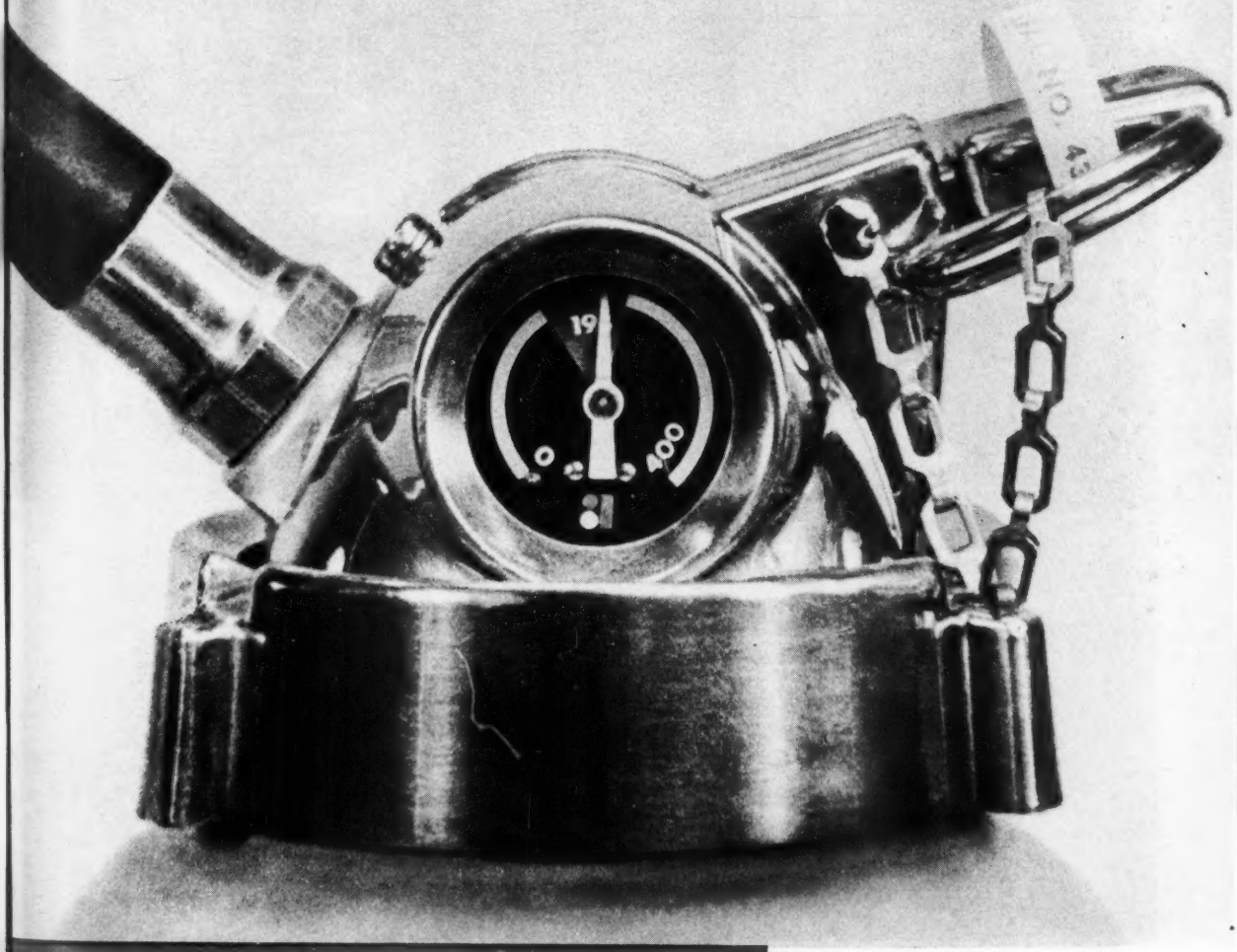
There are significant differences in the ANSUL SENTRY *Energized* extinguishers. In the SENTRY models, Ansul Plus-Fifty B dry chemical is under constant pressure, yet operation and maintenance are as simple and efficient as with Ansul cartridge-operated units. SENTRY models are particularly well-suited to large factories that maintain their own fire brigades. See the advanced features of these *Energized* extinguishers for yourself. We invite you to call your Ansul man. His knowledge and experience can help determine which type of Ansul fire protection best meets your requirements—cartridge-operated D-Models or the *Energized* SENTRY series.



new products, new ideas for better fire protection

ANSUL

FIRE FIGHTING EQUIPMENT
REFRIGERATION PRODUCTS
INDUSTRIAL CHEMICALS

NEW *Porter*® Hose eliminates drying, resists toughest wear

All-"Dacron" double jacket. There's no need now for costly drying equipment, or for stand-by hose. New all-"Dacron" Porter Deluxe Bonded Hose makes drying operations obsolete, and lasts many times longer under severe dragging and scuffing than other types of double-jacket fire hose.

This new hose, with a rubber bond between the two jackets of DuPont "Dacron" polyester fiber, can be dragged many miles without fraying, and can be left wet on the truck without fear of mildew. No drying, no spare hose needed. And the new Porter all-"Dacron" hose gives more than five times the wear of cotton-jacket hose.

A rubber-bonded double jacket of "Dacron" all around is the secret behind the new mildew-proof Porter Deluxe Bonded Fire Hose.

Get all the facts on this remarkable new money-saving fire hose. Ask your Thermoid distributor, or write *Thermoid Division, H. K. Porter Company, Inc., Tacony & Comly Sts., Philadelphia 24, Pa.*

THERMOID DIVISION **PORTER** **H.K. PORTER COMPANY, INC.**

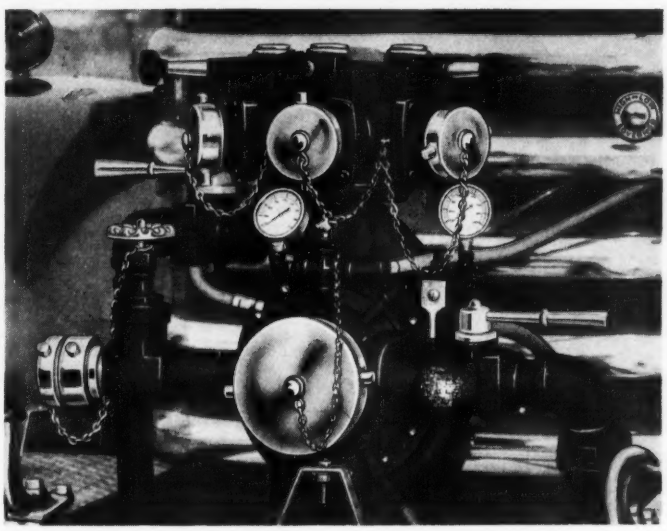
PORTER SERVES INDUSTRY: with Rubber and Friction Products—THERMOID DIVISION; Electrical Equipment—DELTA-STAR ELECTRIC DIVISION, NATIONAL ELECTRIC DIVISION; Specialty Alloys—RIVERSIDE-ALLOY METAL DIVISION; Refractories—REFRACTORIES DIVISION; Electric Furnace Steel—CONNORS STEEL DIVISION, VULCAN-KIDD STEEL DIVISION; Fabricated Products—DISSTON DIVISION, FORGE AND FITTINGS DIVISION, LESCHEN WIRE ROPE DIVISION, MOULDINGS DIVISION, H. K. PORTER COMPANY de MEXICO, S. A.; and in Canada, Refractories, "Disston" Tools, "Federal" Wires and Cables, "Nepcoduct" Systems—H. K. PORTER COMPANY (CANADA) LTD

Extra Fire Fighting Power TO KILL RUNNING FIRES FAST

...*yours* with an AMERICAN FIRE TRUCK equipped with a Barton American 750 GPM FRONT MOUNTED PUMP

...*yours* Fine American Fire Apparatus craftsmanship on a standard commercial chassis that can readily be serviced by your local truck dealer. Excellent chassis balance and roadability plus maneuverability that helps you get at grass, brush and other running fires faster. Hose reel covers which keep hoses and fog guns warm, ready for instant action in coldest weather. Electric re-wind hose reels with brakes adjustable from ground level. Collapsible self-adjusting spring steel drum louvers which flatten when pressure expands hose, preventing damage to hose and couplings. Many other fine features you get only on an American Fire Apparatus truck.

...*yours* Big, rugged Barton-American Front Mounted Pump that puts out 750 gpm at 150 lbs. pressure — that handles *three* 2½" hose lines at a time to give you high volume and delivers high pressure to 400 lbs. to give you effective fog streams. Exclusive interlocking pump clutch that *can't* slip, can't leave you helpless at a fire. Frost-proof design that has been proven over and over again. Positive, fast and frost-proof engine vacuum primer that needs no maintenance, no lubrication. Direct controls that make operation fast and easy. Factory engineered p.t.o. shaft, universal joints and pump gear ratios that are best for *your* truck's engine.



For complete details about this **extra fire fighting power,** see your nearest American representative.

American

AMERICAN FIRE APPARATUS CO.

FIRE APPARATUS CO. "Always Pioneering with Better Engineering"

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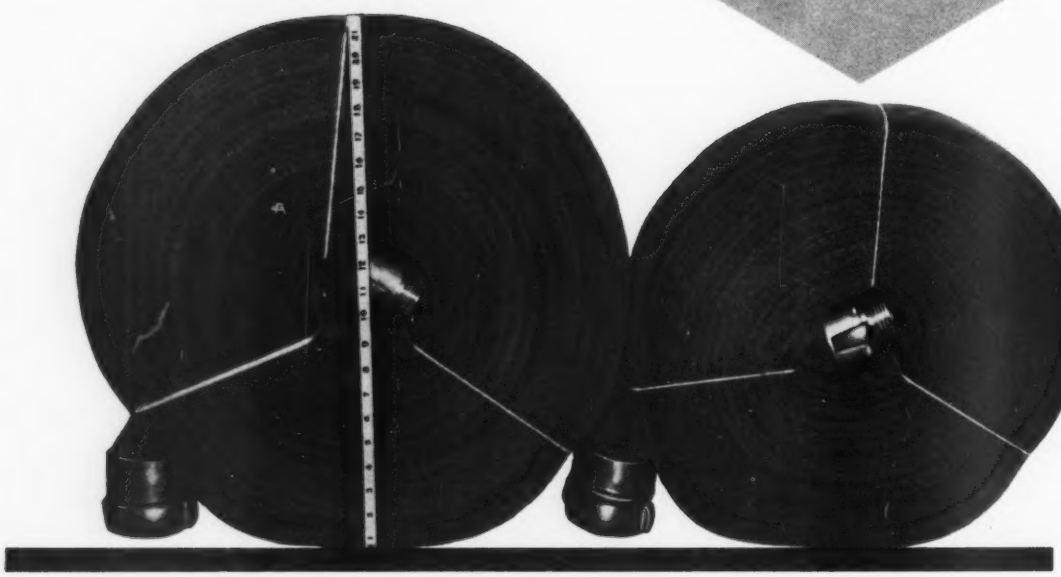
SAME AMOUNT OF HOSE...BUT LOOK

at the difference in bulk between

OLD and NEW



SMOOTH, FLAT, STRONG . . . and TAKES UP LESS ROOM

SMOOTHTEX MUNICIPAL FIRE HOSE (DACRON and COTTON)

SPECIFICATIONS

	Sizes I.D.	Coupling Tail Piece	Wt. Per 100 Ft. Uncoupled	Pressure Test
K-103	1½"	1⅞"	35 lbs.	600 lbs.
	2½"	2¾"	60 lbs.	600 lbs.
K-104	1½"	1⅞"	34 lbs.	400 lbs.
	2½"	2¾"	57 lbs.	400 lbs.

SMOOTHTEX FIRE HOSE . . . that's an accurate description of this new fire hose by Republic. By weaving small-diameter high-tensile dacron fillers into an extremely fine texture, we obtain an extremely smooth hose. Smoothtex has greater strength, is flatter, more pliable and lighter in weight than other fire hose of equal pressure test. And it will wear longer because the smooth texture of the jacket, combined with the lower weight, makes it more resistant to abrasion. Ask us about the new Smoothtex Fire Hose — you can put more footage in the same space and you will replace less often.

REPUBLIC RUBBER DIVISION

LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO

INDUSTRIAL RUBBER PRODUCTS

Winnipeg's three new 1250-gpm, triple-combination Mack pumpers and its new aerial, featuring a 100-foot ladder mounted on a chassis that's less than 32 feet long over-all. This latter unit has greater maneuverability, works in more confined areas, requires much shorter station house than conventional ladder trucks. Pumpers feature 500-gallon booster tanks . . . 1½" rear discharge . . . have space for 1500 feet of 2½" hose and 500 of 1½" hose. Apparatus is powered by Mack's 276 hp Thermodyne® engines, delivering 640 ft./lbs. of torque. Cab-forward models of each unit are now on order.

WINNIPEG IS ROLLING WITH MACKS

With the addition of three new Mack triple-combination pumpers and a new Mack-Magirus aerial truck, plus one more cab-forward model of each now on order, Winnipeg has equipment that matches the spirited efficiency of its 535-man department, headed by Chief David Dunnett.

Throughout both Canada and the United States, in fact, large departments and small, volunteer and paid, are unanimous in praise of Mack dependability in the face of every obstacle.

Considering what Mack offers in custom-built apparatus of the finest quality . . . it's short-sighted to settle for anything less. Mack now fields a wide range of cab-forward and standard units . . . offers a choice of engines, standard two-stage pump or the new Uni-Control Hi-Stage pump, air or hydraulic braking systems, and the gear ratios and built-in extras that you need.

Ask Mack to show you how Mack is best equipped to supply the equipment that's *right*—in design and performance both. Mack Fire Apparatus, Allentown, Pennsylvania. In Canada: Mack Trucks of Canada, Ltd., Toronto, Ontario.

7055-A

MACK

FIRST NAME FOR

FIRE APPARATUS

COMPLETE LINE OF PUMPERS—500 TO 1250 GPM • SQUAD & HOSE WAGONS • AERIALS 65′ TO 144′ • COMBINATION LADDER TRUCKS

AUDIO AND VIDEO SAFETY SYSTEM

ANOTHER SCOTT FIRST

Scott announces the Pak-Alarm, another "FIRST" in the safety equipment industry. This audible alarm, combined with Scott Air-Pak's present visual pressure gauge, produces an AUDIO-VIDEO Alarm System that insures unprecedented safety in Scott protective breathing equipment!

The Pak-Alarm is "cocked" when the cylinder valve is opened. Its loud, clear, minutes-long warning signal will "knock your ears off" and provides ample time for safe exit from hazardous atmospheres.

Pak-Alarm is connected directly to, and is actuated by, the air supply itself. It is extremely accurate and consumes virtually no air during its ringing period.

This "Dual Warning System" is good news for all Scott Air-Pak users. The optional Pak-Alarm can be easily attached to your present Air-Paks.

Available in late Fall. Ask your Scott distributor for a demonstration.

SCOTT AVIATION CORPORATION

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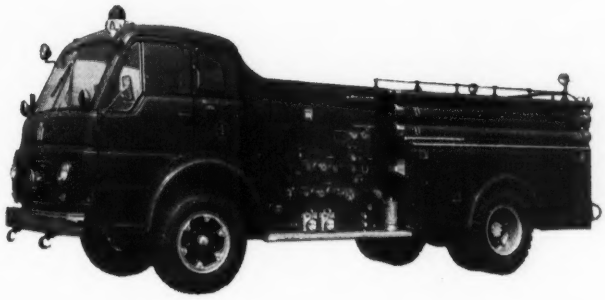
ANOTHER FIRST FROM HOWE!

HOWE OFFERS

DUAL IGNITION

ON A



COMMERCIAL CHASSIS

DUAL IGNITION offers dependability—
COMMERCIAL CHASSIS offers economy and convenient servicing.

HOWE immediately recognized the value of a combination of the two and built the first unit—famous HOWE construction on International Harvester chassis with dual ignition.

The International Harvester Co. is the largest manufacturer of heavy-duty truck equipment in the world and the IH chassis including the dual ignition engine can be serviced by any of the thousands of IH service locations throughout the world. Its component parts are the same standard engineered features contained in all IH trucks which give hundreds of thousands of miles of over-the-road service.

HOWE extends its standard 5 year warranty on b o t h equipment and chassis, the same warranty as the custom-built DEFENDER line.

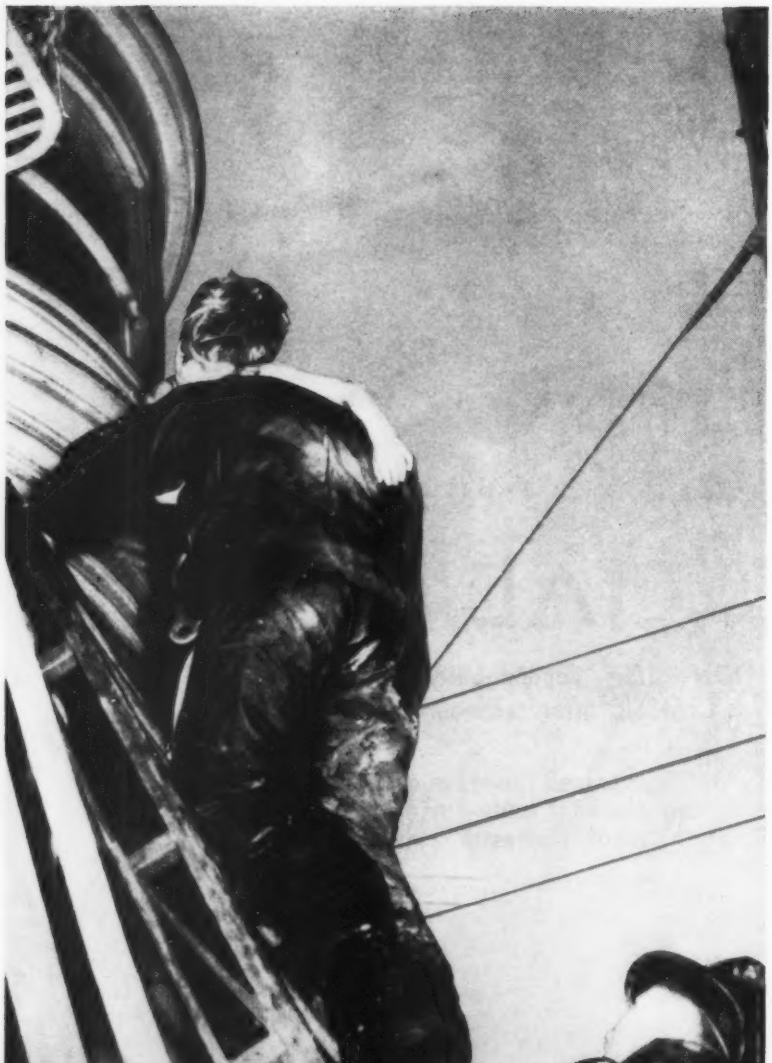
Ask the HOWE representative in your area for complete information regarding HOWE fire trucks or write for colorful brochure.

Dual ignition available on the V-461 (226 HP) and V-549 (256.8 HP) engines.

HOWE BUILDS *Only* FIRE TRUCKS

HOWE FIRE APPARATUS COMPANY

Dept. FE-109 1402 West 22nd St., Anderson, Ind.



Your children are not safe in school....

unless your schools are equipped with a Master Box that *automatically* and *instantly* notifies your Municipal Fire Department . . . *plus* an interior fire alarm system which *simultaneously* sounds an alarm to evacuate the children.

Fire strikes and spreads so rapidly that any delay — even seconds — means greater loss of life and property. Provide *complete protection* for your schools with a Gamewell Master Box, located outside or inside the school building, that sends one vital message — FIRE — *without delay*.

Are you making your community a safer place to work and live?

Equally important is providing adequate protection for your growing community with a sufficient quantity of "Pull" type fire alarm boxes. Modern up-to-date cities such as Chicago, Ill., Burlington, N. C., Tulsa, Okla., Quincy, Mass., and Petersburg, Va., are employing a planned program of adding Gamewell fire alarm boxes and Master Boxes to meet the demands of their growth. With a Gamewell fire alarm system you can provide your community with the same maximum protection *and also give your taxpayers a two-way saving . . .*

- Loss of life and property damage are decreased because the Gamewell system gives fast, positive alarms.
- Reduction of insurance rates by upgrading Fire Underwriter's classification saves substantial sums for property owners.

Don't fall behind the growth pattern of your community. Protect yourself, your property owners, and your children with a Gamewell system that is directly connected to your Municipal Fire Dept. The Gamewell Company will be happy to conduct a FREE survey of your existing fire defenses and make recommendations that can give your community the protection it needs. Write or call The Gamewell Company, 1244 Chestnut Street, Newton Upper Falls 64, Massachusetts.

Gamewell

FIRST...WHEN SECONDS COUNT

VOL. 112, NO. 10

FIRE ENGINEERING

THE JOURNAL OF THE FIRE PROTECTION PROFESSION SINCE 1877

OCTOBER, 1959

It Can Happen Anywhere

Elsewhere in these pages is a report of the recent calamity in Roseburg, Ore., which resulted in a company grade officer assuming command of all fire fighting operations. That this person gave an excellent account of himself and carried out his unexpected responsibilities with distinction certainly reflects great credit on himself, the fire chief and the community which employed him.

This situation should point up to all governmental officials and citizens of this country how important it is that only high-caliber personnel be selected for fire fighting duties at the outset. In this instance, the fire chief was unfortunately stricken with a heart attack and his assistant killed by a terrifying explosion. The mantle of command immediately fell on the shoulders of a young lieutenant-training officer, who, without panic, sized up what to this time was the greatest fire problem ever to face the city. He quickly rallied the depleted forces, committed them to a last-ditch stand, and then directed the mutual aid companies responding to calls for assistance in a manner which soon brought the fire under control.

The circumstances of this terrible emergency were enough to try the courage of any competent fire fighter regardless of grade. Yet similar conditions are possible in practically every community of this country any given day of the year, and will most likely increase in severity regardless of laws and ordinances which may be designed to prevent similar occurrences in the future. This will not be due to deliberate attempts to circumvent established rules and regulations, but rather to the necessities of our way of life and the human proneness to believe that incidents always occur elsewhere and cannot "happen here."

New and more hazardous materials are being conceived and manufactured daily and they must be transported to a market. As future expanded highway programs become a reality, even greater use will be made of truck transportation to move these materials. In spite of regulations and training of persons handling dangerous cargoes, the vagaries of human conduct will soon cause safety rules to be compromised. At that time the stage will be set for another disaster of like nature.

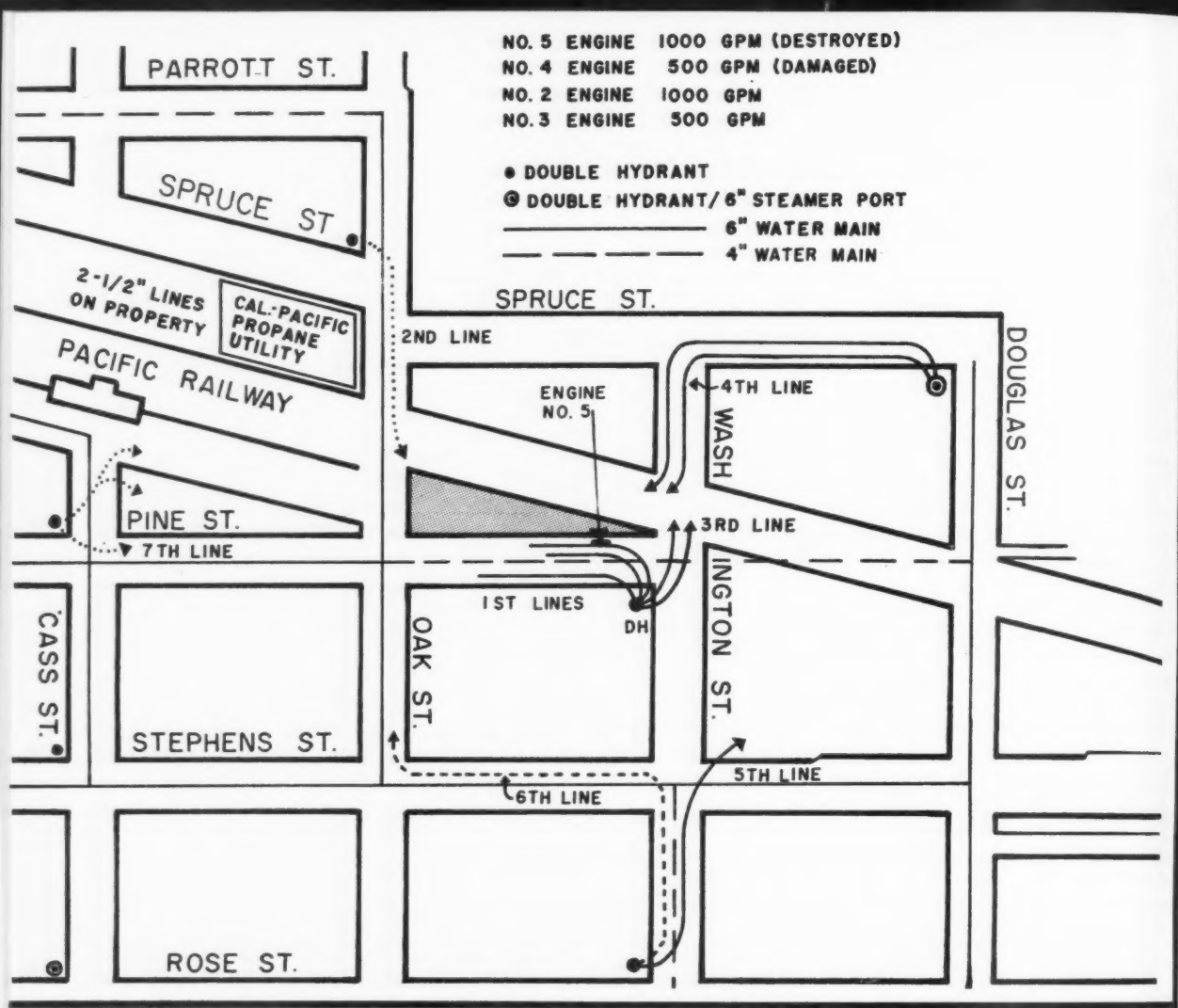
The fire service has always trained to meet emergencies which the average person seldom reckons with —the most serious rather than the ordinary. Unfortunately the mind of man sometimes cannot visualize the scope of the problems to be encountered and fails to provide for every contingency. Fire fighting command structure, proven by long experience, provides for automatic succession in either direction. It is seldom that company grade officers command all operations at a fire other than for brief periods pending the arrival of a chief officer. The provision for such command is recognized, yet training for this condition is another matter.

In most segments of the service, training has consisted of teaching the important fundamentals and the application of them to various situations usually in a series of planned drills commonly referred to as evolutions. Officer-training on the company level frequently involves leadership, administration and fire fighting specialties but seldom the considerations of command on the department level. In the past, it has been expected that junior officers would assimilate the skills necessary for competent command during the time served in the lower levels, and that experience would qualify them for eventual advancement to senior positions in a department.

The fallacy of this point of view is that it presupposes all junior officers are identical in temperament, knowledge, skill and ability to analyze fire fighting operations. It would be much more realistic if greater emphasis were placed on command situations in all training schools for fire fighters, regardless of grade, since it is also recognized and sometimes may occur, that a senior fireman may find himself in command. It seems reasonable, therefore, to propose that all fire fighters be given training in strategy and tactics which will fit them for eventual command responsibility.

It may seem fortunate to some that it is seldom that a lieutenant or captain is called upon to direct a department under the most extreme conditions. Yet in the case of Roseburg, the community can be thankful that a man of such excellent caliber was immediately available, else the crisis may have been more grave than was then apparent. Similar disasters most likely will occur in other communities in the future. While there is still time, every fire fighter regardless of rank should be given the opportunity to prepare himself to face the eventuality. When such an emergency occurs, it will then be too late for anything but action!

Alan O'Brien



ROSEBURG EXPLOSION
Wipes Out Four-Block Area

Blast likened to atomic disaster. Department command during operations rests on shoulders of company officer

Aerial view of blast devastation. Crater in center marks location of parked truck. Derailed freight cars and Cal-Pacific propane tanks are located above the center

By ROI B. WOOLLEY

EARLY IN THE MORNING on August 7, an explosive-laden truck parked in the city of Roseburg, Ore. (population 12,200), was involved by fire which extended to it from a nearby building. The ensuing explosion killed 13 persons and injured more than 150. Included in the death toll was the Roseburg assistant fire chief, Roy McFarland, who had responded on the first alarm. Fire Chief W. E. Mills, off duty at the time, was incapacitated by a heart attack while preparing to respond to the scene. Command of all fire department operations then became the responsibility of Lieutenant Donald H. Starmer, the training officer.

Sometime after 6:00 p.m. on the evening of Thursday, August 6, George Rutherford, driver for the Pacific Powder Co. of Tenino, Wash., parked his truck, loaded with six and a half tons of explosives, next to the Gerretsen Building Supply Co., 538 East Oak Avenue. Rutherford then walked three blocks to the Umpqua Hotel where he registered for the night.

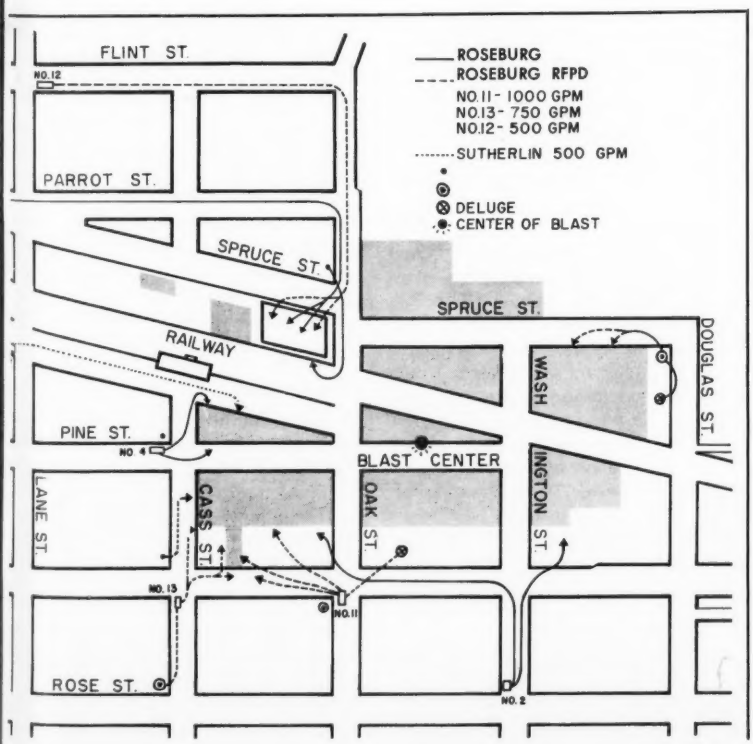
The transport was en route from the powder company's plant, about 7 miles northwest of Tenino, to a road project east of Roseburg on the Umpqua River. Fred W. Munz, controller for the company, said the bulk of the explosive carried in the transport was considered in the industry an "insensitive" agent. Nitroglycerine dynamite, he said, is necessary to detonate it. He confirmed the fact that the load which exploded contained four and a half tons of nitro carbonitrate and two tons of dynamite.

Munz further identified the nitrate product by the company's trade name of "Carprell" indicating a mixture of ammonium nitrate, nut hulls and diesel oil. Carprell, it is said, is always used with dynamite and is shipped in 50-pound bags. Part of the load, according to Munz, was consigned to the Denn-Gerretsen firm, the rest to Helser Rock Production Co. in the Roseburg area.

According to Rutherford, he had been given permission to park his potentially lethal vehicle at the Gerretsen premises. Roseburg at that time had no ordinance restricting the movement of, or parking of explosives on its statute books, although a committee of city councilmen had under consideration at the time a revision of its fire code.

The Gerretsen Building was a concrete structure erected in 1924; a wooden extension was added later. An open storage area occupied the remainder of the property extending north to S. E. Washington Avenue. Housed in building and yard were building materials of all kinds, plumbing, hardware, pumps, fixtures, irrigation equipment and 10 pieces of rolling stock. It was later brought out that a "small" amount of dynamite was kept in the basement of the building and that one and a half tons of the Carprell was to be delivered to the supply company.

Rutherford is said to have checked his parked truck for safety between 10:30 and 11:00 p.m. He then returned to the hotel and retired.



Rubbish fire

Dennis Tandey, an employe of the Nordic Plywood Co. of Roseburg, quit work at 12:30 a.m. Friday. Heading home, he stopped to pick up his wife at her mother's house. As he passed the Gerretsen Building he saw fire in some trash receptacles beside the wooden structure. Tandey stopped his car, directed his wife to turn in a fire alarm, and then tried to pull the burning trash cans away from the building.

Mrs. Tandey drove to an all-night filling station a block away, then returned to see what help she could be to her husband. She said she parked in front of the Coca Cola bottling plant, but when flames broke out of the Gerretsen Building she decided to move farther away. She drove around the block, past the fire. The last she saw of her husband, he had an axe in his hand and was trying to break into the explosive-laden truck, apparently in an effort to move it out of the way of the flames. Mrs. Tandey pulled her car into a parking lot nearby and turned to watch the fire. At that moment the blast occurred.

About four blocks east of the Gerretsen Building at central fire headquarters, Assistant Chief McFarland took the first call for the fire at 1:05 a.m. With him as he drove from the station with the department's Engine 5, a 1,000-gpm pumper, was Fireman Lyle Wescott. Darrel Bilow, another fireman on duty at the time, took the house watch and monitored the radio (all Roseburg apparatus are equipped with radio).

Only seconds after leaving the station, Chief McFarland ordered via radio the sounding of the public alarm. He had not as yet reached the fire scene but accurately gauged the situation. Bilow automatically set about dispatching all the department's units, including those from the west side fire station across the Umpqua River. Hard upon Chief McFarland's first order for additional forces, he radioed headquarters: "Send everything you've got. It's a big one!" Those were the last words to be heard from him at the central station.

At 1:15 a.m., the truck cargo ex-

Fire fighters battle flames following explosion

ploded, literally blowing a four-block area off the map. The blast knocked Bilow to his knees at the watch desk as he was attempting to use the telephone to summon more aid. He regained his feet and continued his calling.

One of Roseburg's volunteer firemen, a former assistant chief, reached headquarters about that time to relieve Bilow and immediately instituted calls for mutual aid to Douglas County fire departments.

Another volunteer fireman, Robert Logan, heard the public alarm and headed directly for the fire which could easily be located. Logan could see the powder company's transport parked, as he said later, about 2 feet from the burning building. He was sure, he testified, neither Chief McFarland nor any of his fire fighters knew the explosive contents of the transport.

When the flames burst out of the Gerretsen Building, Fireman Westcott, who had stretched a line from Engine 5 and was trying to get water on the blaze, was caught in the flare-up. He was severely burned on the arms and hands and had to back out to seek first aid. He located a police cruiser and was headed for the hospital when the explosion came.

Fireman Logan was more fortunate. He had left the fire ground and headed for the central station to get his turnout and pick up a second piece of apparatus (Engine 4) which awaited a driver. He was just driving out of the station when the blast came. The concussion broke the windshield of the 500-gpm pumper and jolted him off the rig. Logan climbed back and headed for the fire. Arriving there, he found McFarland dead, Engine No. 5 wrecked and the fire raging out of control.

Chief Mills incapacitated

The situation was further complicated by the collapse of Fire Chief Mills, which came before he could reach the fire. Chief Mills, head of the department for the past 10 years, had suffered a heart attack in 1957 which hospitalized him for several months. Last year he had a recurrence of the trouble. He heard the alarm at his home and telephoned headquarters for particulars. The explosion came before he left the house and he suffered another seizure and was incapacitated for duty.*

With all chief officers out of action, the burden of command fell to Lieutenant Donald H. Starmer. The 35-year-old officer, a fire fighter since 1951 and in charge of the department's training program, was en route to the fire when the shattering blast occurred. He was uninjured and a few moments later was in the midst of the inferno. Before he could form a picture of the disaster, he was notified of Chief McFarland's death.

Following the blast, the fire "spread all over the place," jumping from the triangular Gerretsen property across Pine, Cass and Oak into the right of way of the Southern Pacific Railroad where some seven freight cars had been dislodged from the tracks. The entire downtown business section was threatened—the most critical exposure being the propane and other fuel storages of the California-Pacific Propane Utility at Oak and the railroad, just west of the Gerretsen property. Fire was rapidly encircling the propane tanks.

Lieutenant Starmer was quick to grasp the situation. Shortly before 2:00 a.m., following a quick sizeup, he issued orders to set up a new fire line at S. E. Stephens Street on the east, and Cass Avenue on the south, and to hold at all costs. Beyond the railroad yards to the west, the Umpqua River formed a natural barrier to the fire's progress. Should this line fail, the situation would be desperate because of the committal of practically every available piece of apparatus and operating personnel. There would be no opportunity to pick up and regroup.

With Engine 5 and its first lines out of action, the fire jumped Pine, forcing abandonment of the hydrant at Pine and Washington (see diagram). The lines laid by Engine 4, though damaged, were still usable. The first from a hydrant at Cass and Pine, the second from a hydrant on Spruce, west of the propane storage area and taken past it to operate on the western flank of the Gerretsen property, were held as were two lines stretched by Engines 2 and 3 from a hydrant at Rose and Washington. The men on these lines took severe punishment, but stood fast. At the height of the action, over 20 streams were in operation, including two deluge sets.

A focal point of the struggle was the Cal-Pacific propane occupancy. Starmer concentrated no less than six lines at this point. These men stood back to back, one group wetting down the large tanks, the other setting up water curtains in the effort to beat back the flames. Several fire fighters were scorched and burned at this point but the front lines held.

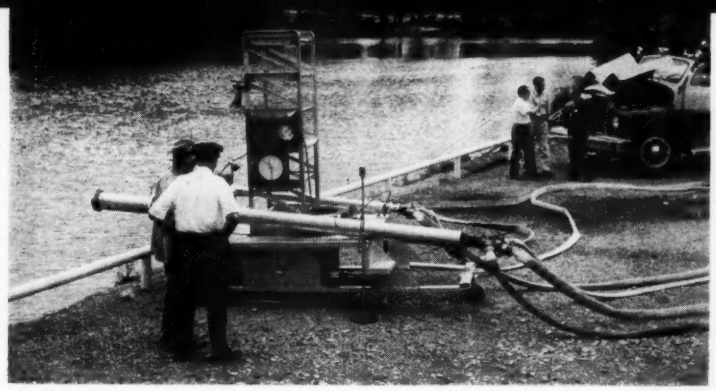
Tragic totals

Forty minutes after he had reformed his defense lines, Starmer had the fire in hand. By 3:00 a.m., only tedious mopping up remained.

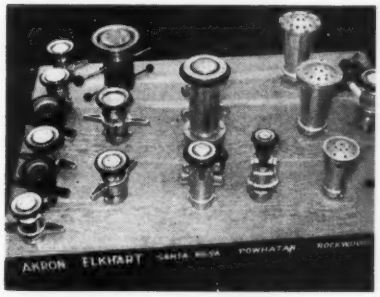
The known dead totaled 13, including the assistant fire chief, a former volunteer fireman and a Roseburg policeman. Most of the casualties were sight-seers who were attracted to the fire scene by the blaze and the movement of fire and emergency vehicles. Flying glass and debris accounted for the majority of injuries.

Continued on page 982

**Chief Mills resigned because of ill health on August 14. He had built up the department from five paid men and a handful of volunteers to a force of 16 regulars and 20 well-trained volunteers during his 10-year tenure.*



Testing facilities located on banks of Genesee River in rear of Rochester Training Academy. Two new pumpers provided necessary water



Six manufacturers submitted 17 nozzles for calibration. All were mounted on special dolly for convenience of committee

High-Volume Fog Nozzles Tested

The pump testing bulkhead at the Rochester, N. Y., Fire and Police Training Academy was the scene of scientific study on September 21 through 23, as the subcommittees on Heavy Stream Devices and Fog Nozzles of the Committee on Fire Department Equipment, NFPA, jointly tested the flow characteristics of a large number of high-volume fog nozzles. Employing a new differential pressure-volume recording test stand designed by Deputy Chief Lou Vogt, Rochester supervisor of maintenance and chairman, Heavy Stream Devices Committee, (see FIRE ENGINEERING, June 1959, page 478) the committee members determined the discharge volume under controlled conditions of various fixed and adjustable pattern nozzles. Cooperating in the tests were the Rochester Fire Department, Chief George Holzschuh; Akron Brass Mfg. Co., Inc.; Powhatan Brass & Iron Works; Rockwood Sprinkler Co.; Santa Rosa Fire Nozzle, Inc.; and Wooster Brass Div., The Fyr-Fyter Co. Engineers of the Taylor Instrument Co., Rochester, N. Y., supervised function of the test stand to insure proper recording of the data.

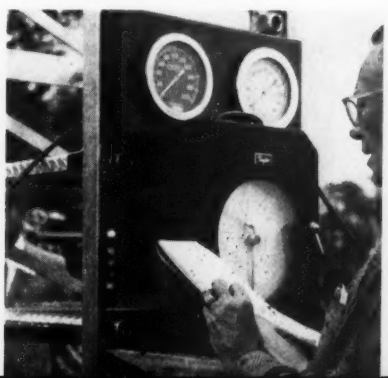
The purpose of the tests was to collect information concerning flow characteristics of the large nozzles which until this time have been difficult to measure. The findings of the joint subcommittee work will be published in a report when all details have been correlated.

Chairman of tests, Deputy Chief Louis Vogt, Rochester supervisor of maintenance, and engineer of Taylor Instrument Co. check final details before beginning operations

Various discharge patterns of adjustable nozzles were calibrated with fixed protractors to facilitate committee study

Engineer Owens, Taylor Instrument Co., changes recording graph of volume indicator following nozzle test. Accuracy of differential-type gage is said to be within 2½ per cent

John Barman, Missouri Inspection Bureau, announces results of test. Each phase of work was broadcast over P. A. system



Grand Rapids I. A. F. C.

Fourth meeting in "convention city" since inception of organization is outstanding success

Governor G. Mennen Williams graciously welcomed the fire chiefs to the State of Michigan and warmly praised their efforts to further home fire safety

OCDM Director Leo A. Hoegh presents ► certificate of appreciation to President Malmquist as recognition of the assistance of I.A.F.C. to the National Fire Defense Advisory Committee. Looking on is First Vice President A. H. Lintelman

Second Vice President W. J. Taylor congratulates John J. Ahern, director of security, General Motors Corp., Detroit, following the latter's talk on the future of industrial fire safety

All photos by District Chief R. Palmer, Grand Rapids

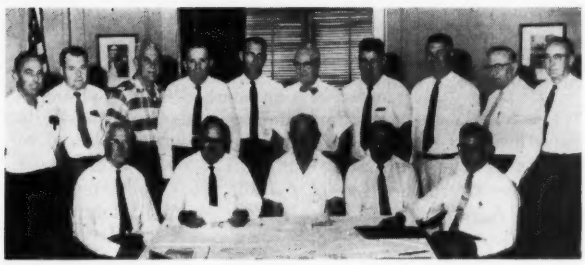
Conference Carries on Great Tradition

THE 86TH ANNUAL CONFERENCE of the International Association of Fire Chiefs was pronounced in session by President Reynold C. Malmquist promptly at 9:30 a.m., Monday, August 31, in the main auditorium of the Grand Rapids, Mich., Civic Center. To the more than 1,000 delegates and guests assembled in the vast room, this was the official opening. However, much important Association business had already been transacted.

On Saturday, August 29, the board of trustees, International Fire Administration Institute, met in official session and re-elected Chief William L. Miller, Los Angeles, Calif., as chairman; Fire Marshal William J. Scott, Toronto, Ont., vice chairman; B. Richter Townsend, New York, secretary; and Chief G. A. Mitchell, Opelika, Ala., treasurer. Trustees on the executive committee included Chief Reynold C. Malmquist, Minneapolis, Minn., and James J. Duggan, South Charleston, W. Va.

Trustees originally elected to one-year terms were re-elected to two-year terms. These include Mr. Duggan, Marshal Scott, Chief Mitchell, Secretary-Manager Townsend, and Robert C. Byrus, College Park, Md. Past President Donald S. Charles, Char-

President Malmquist presents Host Chief A. J. Meyers with I.A.F.C. plaque in recognition of Grand Rapids' efforts in home fire inspection campaign. Looking on is Mayor Stanley Davis and Mrs. Meyers (in foreground)

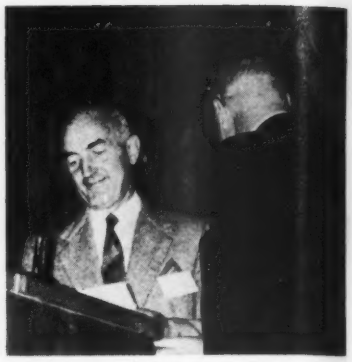


I.A.F.C. officials at Board of Directors meeting on Sunday, August 30. Seated (left to right): Executive Secretary Jay W. Stevens, San Francisco; President R. C. Malmquist, Minneapolis; First Vice President A. H. Lintelman, Baytown, Tex.; Second Vice President W. J. Taylor, Burbank, Calif.; Treasurer G. A. Mitchell, Opelika, Ala. Standing (left to right): Director K. Klinger, Pacific Coast Inter-Mountain; Associate Director E. Deignan, Eastern; Director E. Fields, Missouri Valley; Director C. Meadows, Southwestern; Director L. A. Marshall, New England; Director W. J. Scott, Canadian; Director G. Schlotterbeck, Great Lakes; Director E. R. McDaniel, Southeastern; Retiring Director Ray Tiller, Missouri Valley; Secretary-Manager B. Richter Townsend

Retiring President R. C. Malmquist (right) swears in new officers during Thursday morning installation ceremony. Left to right are G. A. Mitchell, treasurer; Edward Deignan, Elizabeth, N. J., second vice president; William J. Taylor, first vice president; A. H. Lintelman, president

Adding to international flavor of conference was Chief Itabashi, Yokohama, Japan, who brought greetings from all Japanese fire chiefs. He spoke through interpreter, Paul C. Nishiyama (right)

Members of Civil Service Classification Committee who delivered the major committee report of the conference. Left to right: Public Safety Director Edward MacDonald, White Plains, N. Y., president, Eastern Association; Henry J. McFarland, director, Municipal Service Division, New York State Civil Service Commission; Chief Irving Merrick, Poughkeepsie, N. Y.



Chief Fire Officer Fred W. Delve, London, England, takes rostrum after introduction by President Malmquist. The British fire chief made a big hit with his extemporaneous remarks

lotte, N. C., retired from the board to be replaced by the newly elected I.A.F.C. second vice president.

Trustee Dr. Leonard C. Silvern, Los Angeles, Calif., was transferred from the educational to the industrial division of the board, and Dr. John D. Gerletti, University of Southern California, former manager I.A.F.C., was elected trustee, educational division.

Endorse college courses

The board voted to endorse the existing fire administration programs of Queens College, New York City, and the University of Southern California at Los Angeles. All colleges in the United States and Canada now carrying on fire administration programs were invited to submit their curricula to the Institute for its approval or comments.

Authorization was given to hire a public relations counsel to help prepare and publish a presentation brochure on the proposed work and activities of the Institute. The latter will be useful for submission to some of the larger financial foundations which have been approached to provide the substantial funds required to carry on the work of the Institute. Before adjourning, the next meeting of the Institute was set for January 1960 at the time and place of the midwinter I.A.F.C. board of directors meeting.

On Sunday August 30 the board of directors, I.A.F.C., held its annual conference meeting in the Pantlind Hotel. President Malmquist reported on the state of the Association and commented on his recent European trip. Following the report of the secretary-manager, a lengthy discussion was carried on concerning the proposed raise in dues. Thanks were expressed to FIRE ENGINEERING for the advertisements pertaining to membership which have resulted in a gain in members. Honorary life memberships were recommended for W. Fred Heisler, Oklahoma A & M University; A. Bruce Bielaski and John A. Neale, both National Board of Fire Underwriters, retired; and Chief Officer F. W. Delve, London, England.

Following adjournment of the annual conference, the board met in a postconference session.

The annual midwinter board meeting was scheduled for the Hotel Manhattan, New York City, beginning January 18. At that time, bids for the 1963-64 conference will be considered. At present Honolulu, Hawaii; North Bay, Ont.; Detroit, Mich.; and Miami Beach, Fla., have submitted bids.

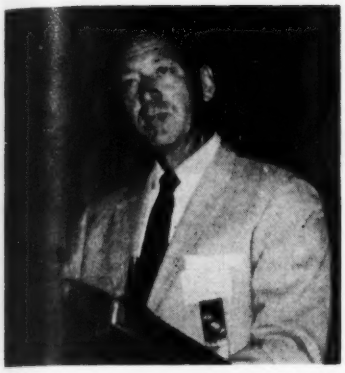
The Great Lakes Association of Fire Chiefs held its annual meeting on Sunday afternoon. At this time President George Schlotterbeck, Hamilton, Ohio was elected as director to the I.A.F.C., filling the vacancy caused by the untimely death of Chief Robert McAllister, Plymouth, Mich.

Dignitaries presented

The opening session followed the rituals of the past, including a very impressive memorial service in which Jay W. Stevens, San Francisco, read the roll call of departed members. Introduced to the assembly were Host Chief Adrian Meyers; Chief Calvin Johnson, Flint, president, Michigan State Fire Chiefs Association; City Manager A. H. Rypstra and Mayor Stanley Davis, Grand Rapids; and Governor G. Mennen Williams, who welcomed the chiefs to the State of Michigan. First Vice President A. H. Lintleman responded.

The business sessions began promptly at 1:30 p.m. on Monday, with President Malmquist presiding. Following committee appointments and report of the secretary-manager and the treasurer the first technical discussions began. Leading off was President William D. Buck, International Association of Fire Fighters, Washington, D. C., who discussed the role of unions in the fire service and their relation to the fire chief. He was followed by Chief Dan F. Vogel, Cincinnati, Ohio, who discussed the same subject from the point of view of the responsibility and authority vested in the fire chief. The final speaker of the day was Chief Officer F. W. Delve, past president of the Institution of Fire Engineers and National Fire Service Officers Association, London, England. Chief Delve's scheduled paper was "The Fire Service In The United Kingdom." Due to the interest in the topics covered by the preceding speakers, he handed his talk to the stenographer for inclusion in the minutes and then talked extemporaneously on some legal problems which have faced him in recent years due to legislated changes in English Common law.

On Monday evening the delegates were entertained by the Shriners of Saladin Temple. The spectacular and colorful show included selections by the Saladin Band and Male Chorus, precision marching by the Saladin Pa-



Chief Dan Vogel, Cincinnati, Ohio discusses his position in reference to fire fighters union. William D. Buck, president, International Association of Fire Fighters, stated position of unions in a talk immediately preceding

Exhibitors inside and out of the Civic Auditorium received a big play. Hydraulic aerial towers, aerial ladders and pumpers were much in evidence

trol and unusual music by the Oriental Band.

Tuesday's session under the gavel of First Vice President Lintelman opened with the report of Chief A. H. Kimball, Hingham, Mass., chairman, Boy Scout Committee. An increase of more than eleven per cent in scouting units sponsored by volunteer and paid fire departments was noted. As of December 31, 1958, the 1,779 units included 486 cub packs, 978 scout troops and 315 explorer units, with a total of 71,150 boys in active participation.

Executive Secretary Jay W. Stevens, chairman of the Home Fire Inspection Program Committee, assisted by Chief Henry S. Thomas, retired, Hartford, Conn., reported the results of the campaign for state conferences. The statistics supplied by California State Fire Marshal Joe R. Yokers were of special note. During the four-year period in which the nationwide residential inspection campaign has been conducted, home fire deaths have dropped 28 per cent in California. The home fire safety campaign was credited as the principal contributing factor in this major reduction in loss of life by fire.

Jay W. Stevens reports on effects of home fire inspection campaign. Seated (center) is former Chief Henry Thomas, Hartford, Conn., consultant, National Board of Fire Underwriters and (left) Ernest D. Grossman, special agent

Outstanding report

The Civil Service Classifications Committee consisting of Chairman Henry S. McFarland, New York State Civil Service Commission; Chief Irving D. Merrick, Poughkeepsie, N. Y.; and Public Safety Commissioner Edward J. MacDonald, White Plains, N. Y., then reported for nearly 50 minutes on the results of 18 months of research into the problems of manpower, administration and operations, and the effect of each on civil service employee classifications. Using charts the committee illustrated various problems and the solutions they were recommending.

Continued on page 980

Does Weather I

By ARTHUR R. PIRSKO, *Forester*
Division of Forest Fire Research
Pacific Southwest Forest and Range Experiment Station
Forest Service, U. S. Department of Agriculture

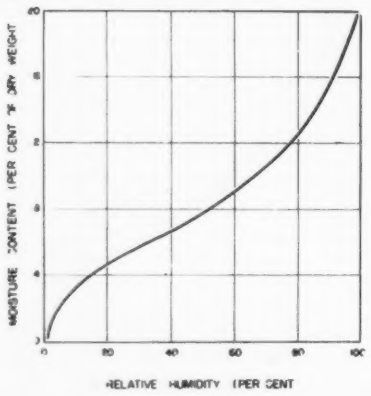


Fig. 1.—Average equilibrium moisture content for fine fuels as related to relative humidity for a temperature of 75° F.

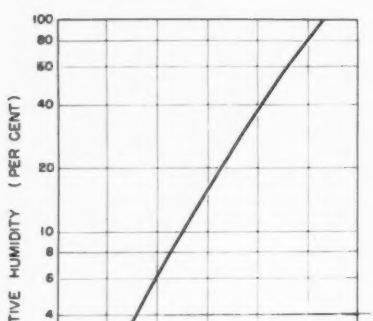


Fig. 2.—Relationship of exterior dew-point temperatures to interior relative humidities at 65° F.

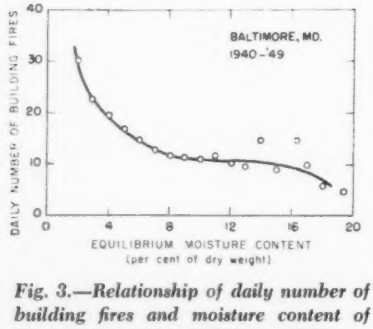


Fig. 3.—Relationship of daily number of building fires and moisture content of interior fine fuels in Baltimore, Md.

WHY ARE THERE so many urban fires in the Midwest and East as winter cold waves march through these areas? What happens in California cities during the summer and fall months when fires become more frequent than usual? Can seasonal climatic extremes be related to fire ignitions in a logical manner?

Major urban catastrophies as the Chicago, Peshtigo and Berkeley fires all happened under rather similar weather conditions: Extended periods of hot and dry weather. Descriptions of these fires referred to dwellings and grassy fields as "tinder dry" and stressed the importance of extended drying conditions.

Fire ignition and behavior in forest fires have been found to be closely related to the amount of moisture in the fuel. The more damp timber and grass fuels become, the more difficult it is to ignite or sustain fire. Similar moisture relationships can be shown to affect the rate of urban fire ignitions.

Heavy and fine fuels

The amount of moisture in building contents and materials changes both daily and seasonally. A U. S. Forest Products Laboratory analysis[1] has shown that the moisture content of heavier material (wood one-half inch thick and larger) changes less rapidly than fine fuels in cities throughout the country. These heavier materials reflected seasonal, rather than daily weather changes. Low moisture contents were found to occur in the summer in the Southwest and in the winter through the rest of the United States.

Most urban fires inside buildings are started by ignition of fine or kindling materials such as paper or cloth substances having large surface volume in proportion to weight. These fine fuels in turn ignite the heavier fuels within a structure.

Weather changes and fine-fuel moisture

At a constant temperature, changes in the moisture content of fine fuels follow changes in relative humidity[2] (Table 1). All of these fine fuels are hygroscopic, that is, they can take on or give up moisture from the surrounding air. The average of the moisture contents for five common fuels in relation to relative humidity is shown in Fig. 1. From this curve we can approximate the moisture content of the fine fuels for any relative humidity.

When outside temperatures for the day average 65° F. and above, doors and windows are usually opened to allow fresh air into the building. Air is free to move in and out. So during the summertime, air outside is about the same as air inside a building, therefore the outside relative humidity can be used to estimate the inside fine-fuel moisture.

As winter approaches, the doors and windows are kept closed, and furnaces are started to keep the inside temperature comfortable. This heating has a profound effect on the inside humidity during winter. As fresh outside air is taken into a building and heated, the relative humidity drops. Then this "dried" air acts as a sponge and rapidly absorbs moisture from the fine fuels. For example, if outside air at 20° F. and 80 per cent relative humidity is taken in and heated to 70° F., the relative humidity drops to about 12 per cent. The warmer the air, the more water it can hold, and the greater its drying effect.

[1] *Peck, Edward C., 1932. Moisture content of wood in dwellings. U. S. Dept. Agric. Circ. 239.*

[2] *Relative humidity is the amount of water vapor actually present in the air compared to the amount that could be held at the particular temperature.*

Influence Urban Fires?

Even though the dry inside air picks up moisture from both fine and heavy fuels, its water-vapor content cannot be increased indefinitely. Some of the water vapor leaves the interior air of the buildings by passage through cracks around windows and doors. Some water vapor may also be removed from the inside air by condensation on cool window glass or room corners or by diffusion through the walls themselves.

The outside weather element that best expresses the effect of winter weather conditions on interior fine-fuel moisture is the dew-point temperature.[3] Fig. 2 shows the relationship between the exterior dew point and interior relative humidity. The dew-point temperature can be used to estimate the interior fine-fuel moisture content whenever the average daily temperature is 64° F. and lower.

Table 2 shows the calculated interior moisture contents of fine fuels for summer and winter in urban areas. These ratings are for the average of five common fine fuels shown in Table 1. Synthetic plastic fabrics were not included as they do not absorb moisture (are not hygroscopic) but hold only small amounts of water between two or more fiber surfaces where the fibers cross one another.

Urban fires vs fine-fuel moisture

The cities of Baltimore, Boston, Minneapolis, and St. Paul were selected for analysis of fire starts. The climate of these cities permitted study of the influence of both summer and winter weather conditions on fire starts. Fire weather data for St. Paul and Minneapolis were combined; the two cities were considered as one urban area.

Fire data for several years (Baltimore 1940-1949); Boston 1940, 1941; and Minneapolis-St. Paul 1942-1946) were obtained from the official logs through the cooperation of the fire chiefs. These data were screened to include only fires originating within a structure, thus eliminating automobile, dump, power pole, tree and explosion fires.

Weather data were tabulated from monthly climatological summaries of the local U. S. Weather Bureau office in each of the four cities. Weather elements which were considered as possibly influencing the start of urban fires were maximum wind speed, mean temperature, precipitation, maximum and minimum temperature, relative humidity, and dew-point temperature. Snow, sleet and hail were included in the rain data as water equivalents.

Statistical analysis showed that winter dew-point temperature and summer relative humidity were the best indicators of the moisture content of fine fuels within a structure.[4] The analysis, covering four different seasonal test periods of 62 consecutive days in each city, compared each weather element with the daily number of building fires.

All other weather elements failed to pass the correlation analysis. Precipitation and wind, for example, were found insignificant. This is logical

Continued on page 1009

[3] *The dew point is the temperature at which moisture begins to condense out of the air as it is cooled.*

[4] *Pirsko, Arthur R. and Fons, W. L., 1956. Frequency of urban building fires as related to daily weather conditions. U. S. Forest Service, Forest Fire Research Div., Calif. For. & Range Exp. Sta., Berkeley, Calif.*

Table 1.—Equilibrium moisture content percent of some fine materials at air temperature of 75°F[1]

Material	E. M. C. where relative humidity (percent) is—								
	10	20	30	40	50	60	70	80	90
	Percent								
Cotton cloth	2.6	3.7	4.4	5.2	5.9	6.8	8.1	10.0	14.3
Wool skein	4.7	7.0	8.9	10.8	12.8	14.9	17.2	19.9	23.4
Newsprint	2.1	3.2	4.0	4.7	5.3	6.1	7.2	8.7	10.6
Writing paper	3.0	4.2	5.2	6.2	7.2	8.3	9.9	11.9	14.2
Kraft wrapping paper	3.2	4.6	5.7	6.6	7.6	8.9	10.5	12.6	14.9
Average	3.1	4.5	5.6	6.7	7.8	9.0	10.6	12.6	15.5

[1] *American Society of Heating and Ventilating Engineers, 1944. Heating ventilating air conditioning guide, XXII, New York.*

Table 2.—Estimate of equilibrium moisture content of interior fine fuels

Relative humidity, percent[1]	Dew-point temperature[1]	Fine-fuel moisture content
	°F	Percent
2 or less	−18 or less	1
3– 7	−17 to +2	2
8–13	3–15	3
14–21	16–25	4
22–30	26–34	5
31–39	35–40	6
40–48	41–46	7
49–56	47–50	8
57–64	51–53	9
65–71	54–55	10
72–76	56–57	11
77–81	58–59	12
82–84	60–61	13
85–88	62	14
89–91	63	15
92–93	64	16
94–95	—	17
96–97	—	18
98–99	—	19
100	—	20

[1] *Use exterior dew-point temperatures when daily mean air temperature is 64°F or below, and relative humidity when daily mean air temperatures are 65°F or above.*

Table 3.—Danger classes of urban fire starts as based on fine fuel moisture content

Fine fuel moisture content	Urban fire danger class
1 to 3	Extreme
4, 5	High
6 to 8	Moderate
9 to 20	Low

Fire seared this car and withered foliage as it roared through this side canyon near Laurel Canyon. Fire fighter at extreme right rolls up hose line for next skirmish in the battle

—L. A. F. D. photos

Home on hillside burns in this general view of the Laurel Canyon blaze. Note ruins at right and mountain patrol unit in foreground

Cyclonic Fire Destroys 38 Homes In Hollywood's Laurel Canyon Area

By CLIFF DEKTAR

A CYCLONIC FIRE combined with torrid temperatures caused one of the worst fires in the history of Los Angeles in the rustic Laurel Canyon area of Hollywood on the afternoon of July 10.

Although the explosive fire of undetermined origin burned only 300 acres, it destroyed 38 homes and damaged many others. Firemen saved countless others.

To understand the rapid spread of the fire, some background is necessary. Laurel Canyon Boulevard, the main artery serving the area, is curving and narrow, and fire stations are located several miles away. Apparatus must travel these narrow roads causing further delays.

The Los Angeles Fire Department is well aware of the problems and furthermore knows that the trees and brush in the heavily populated area are tinder-dry. Los Angeles had only slightly more than 5 inches of rain from July 1, 1958 through June, 1959.

The department has been attempting to purchase a station site at Mulholland Drive and Laurel to solve these critical problems somewhat, but residents have blocked zoning variances, insisting the station would lower property values.

Then, at 2:33 p.m. July 10—with the temperature hovering over 103 degrees in the shade—a fire broke out in the new and expensive Trousdale Estates in the mountains north of the Sunset Strip and Beverly Hills. Beverly Hills sent five engines, Los Angeles City six, and Los Angeles County five. Several of the L.A.F.D. units, including Engine 41 and the all-wheel drive 1,000-gallon Tank Patrol 1 were normally first-in to the Laurel District.

Los Angeles' Westlake Alarm Center received a phone alarm of a fire

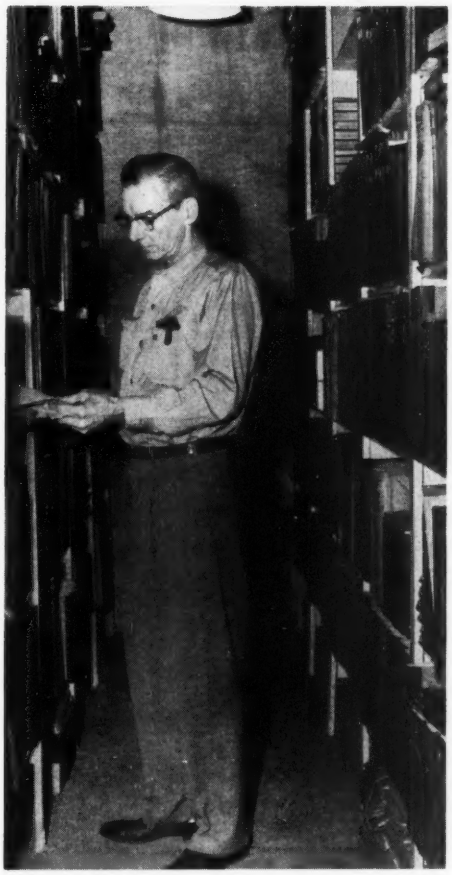
Continued on page 996

How History Can Help The Fire Service

Properly cared for, old records and reports can do more than take up valuable space in the basement or attic of fire headquarters

By **RICHARD L. HEATH**

The author is a student of history and government as well as a fire buff. He received an M.A. degree in 1957 from the University of Minnesota with the thesis "History of the Minneapolis Fire Department, 1851 to 1916." He is currently engaged in research on the general history of fire protection in the United States as part of his studies for the degree of Doctor of Philosophy



Minneapolis Fire Department record vault, located at Station 17, is under supervision of Fire Motor Operator Robert Ross Jones. He catalogs and stores all documents as an extracurricular duty in addition to fire fighting

THE FIRE SERVICE justifiably is most concerned with its present needs and future progress. There are a number of reasons, however, why a closer study of its past is equally justified. On a local level particularly, where so many of the achievements of fire protection have been recorded, a careful research of fire department history might provide material assistance to such functions as public relations, fire prevention, training, and administration.

Despite the past achievements and rich traditions of the fire service, the study of fire protection history at a local level has been largely neglected. No history of a large municipal fire department has been published in the last 20 years. It is the unusual chief officer who has devoted more than passing attention to the preservation of his department's past. Too many departments have been content to rely on some 19th century souvenir history, filled with little more than portraits of bewhiskered volunteers; on an occasional newspaper article based on a hasty glance through the clipping files; or on the colorful but rambling reminiscences of a retired veteran. It is significant that with the exception of the excellent articles by Chief Clarence E. Meek in FIRE ENGINEERING magazine, recent writing in fire department history has been confined to general works by newspapermen or buffs such as Robert Considine, Robert Holzman, John Morris, and Paul Ditzel.

We are in a period of increasing popular interest in history, often stimulated locally by centennial or other historical celebrations. An opportunity to make a worthy contribution to local history at a time when the subject is before the public is not to be neglected by any public relations minded department. The news media, whose assistance is so essential to good public relations, often require historical data for special editions or feature articles. Similar information is needed by civic groups preparing centennial publications or reference material. The fire chief who can save them tedious research by offering a concise, well-organized history of his department will gain much in good will as well as publicity.

Fire service history, moreover, is colorful and exciting, intrinsically appealing to the public. As one of the more popular municipal functions, fire departments have often built up traditions of community service which an emphasis on their history will help to keep before the public. What better way is there to demonstrate past achievements than through historical evidence? And how better to emphasize the progress of fire protection than to contrast it with an earlier period?

The relationship of history to past experience is particularly valuable in fire prevention activities. In any city, most serious fires in its history have resulted from flagrant violations of fire prevention principles. An account of great fires of the past which stresses their preventable origin may be an effective reminder against present carelessness. For the citizen who objects to preventive regulations, a local example of the consequences of disobedience may prove more convincing than coercion.

This same function of history as an

Continued on page 1000

Narrow clearance in side aisles and poor lighting when racks are full pose problems which may be compounded if fire occurs in vaults

How to avoid a million or more loss in one room . . .

Fighting Fire in Fur Storage Vaults

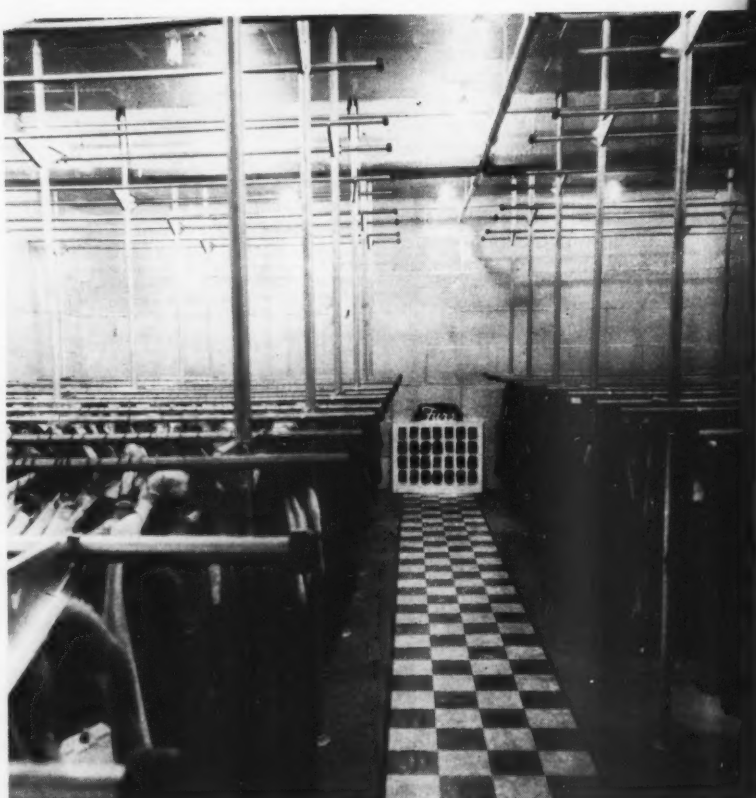
By **HARRY J. SOMMERS**
Chief Engineer, Newark, N. J., Fire Department

ONE FIRE involving a fur storage vault can cause a nominal fire loss to be increased tremendously, due to the high value of the furs stored therein. This is especially true in smaller communities. In some localities, little official attention is paid to fur storage and in many areas, regulations governing vault location and construction are nonexistent. Consequently, it is worthwhile to review the problems that may be encountered in extinguishing a fire in a fur vault with the least amount of damage.

Fortunately, there is usually no life hazard, but restricted access, toxic fumes and very high value merchandise complicate fire fighting. Since furs can be damaged by water as well as fire, the problem of minimizing the loss is of great importance.

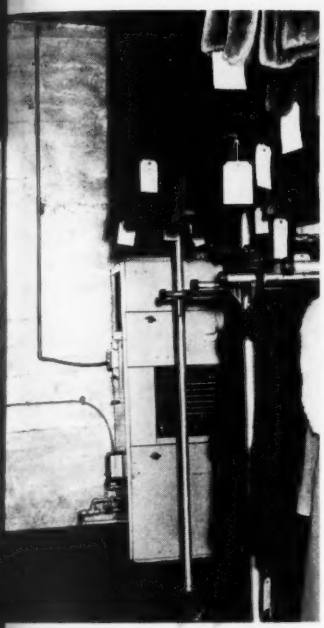
All fur storage vaults are constructed and arranged according to a relatively constant pattern so that the situation which may be encountered at a fur vault can be anticipated well in advance. A normal vault is a room, or building, about 1,500 square feet in size, with brick walls and a reinforced concrete ceiling. There is usually only one entrance, equipped with a bank-type vault door, with a refrigerator door on the inside. In some vaults there are vent openings about 12 inches in diameter through the ceiling or the walls.

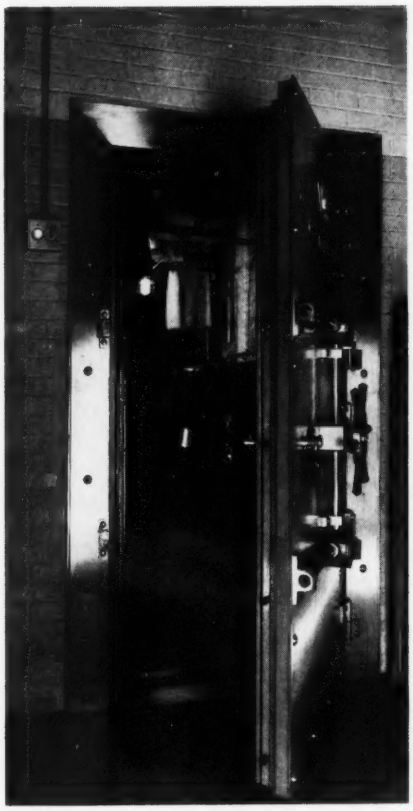
Within the vault there is a main



Typical interior of large storage vault. Note wide center aisle and steel racks for hanging garments. Capacity of such a vault may exceed 4,000 fur coats

Air conditioner-ventilator installation in reinforced concrete vault. Breakdown of electrical equipment is one cause of fires in such installations





Bank-type door on typical fur storage vault. Forcible entry is out of the question and the only recourse is to have the plant manager open the door in case of necessity

aisle about 5 feet wide. Directly in front of the door, running perpendicular to this main aisle, are the garment racks upon which the coats are hung. The side aisles are generally only wide enough to allow a single person to squeeze through. Lighting is usually adequate in the main aisles, but poor in the side aisles because of the close spacing of the furs.

Equipment in the vault consists only of the electric lighting, the steel storage racks, a refrigeration blower unit or fumigation units. About half of the vaults in the United States are protected by automatic sprinklers and but a small percentage have automatic smoke detectors or carbon dioxide flooding systems. The value of the furs in a 15,000-cubic-foot vault may be up to $1½ million.

Despite the small amount of equipment in the vault, fires start from a number of causes. The worst fires that have occurred in the past have been started by portable lights thrown over the racks, thereby allowing them to hang between the furs. Since a fur coat is designed to keep a woman warm, it is not surprising that it is going to keep a light bulb hot—hot enough to set fire to a fur coat. Fires have been started by hanging gar-

Continued on page 984

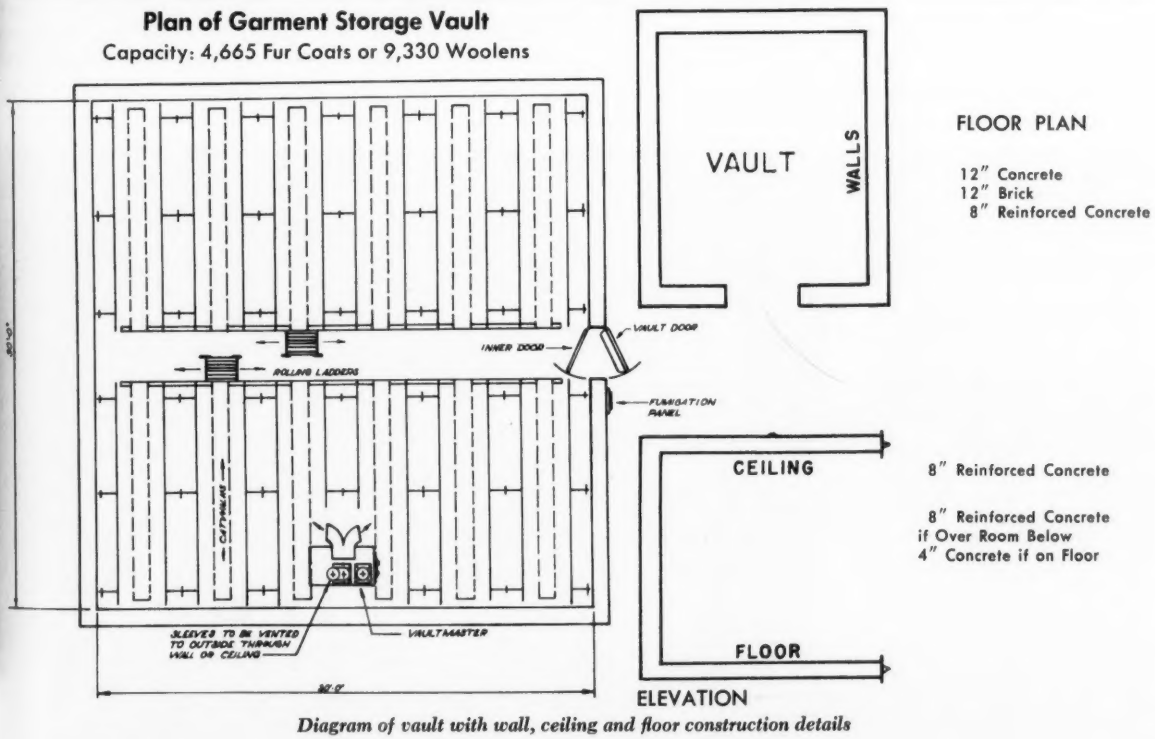


Diagram of vault with wall, ceiling and floor construction details

FROM INFORMATION gathered as a result of interviewing persons working in the area, discussions with firemen and inspection of the site, the following findings have been made relative to the fire which occurred in the Pentagon on July 2, 1959.

The damaged area, which was generally confined to the space used by the Air Force for IBM computing operations, consisted of approximately 10,000 square feet located on the first floor of the Pentagon. The area is located in an interior portion of the building, adjacent to "D" Ring and Corridor 10.

In order to meet requirements of the Air Force for additional tape storage capacity, a small addition to the storage room had been built. This area was separated from the work room by a wood-stud and plasterboard partition. It had also been determined that additional storage facilities could be made available through turning existing steel racks through a 90-degree arc and adding one additional tier of shelving to the top of the existing equipment.

In order to accomplish this, it was necessary to remove existing fluorescent light fixtures which were suspended in the existing aisles between the storage racks. Because of the limited clearance, approximately 3 inches, which remained between the additional tier of shelving and ceiling, it was decided to install temporary lighting, and upon completion of the rearrangement of the racks, to install new flush-type fluorescent lighting in the aisle areas which would be established after relocation of the tiers of racks.

On the morning of July 2, the date of the fire, several workmen had been moving the racks to their new locations and replacing tape reels in the racks. At approximately 10:00 a.m., the men who had been moving racks were dismissed from work and the storage room was locked.

It is believed that the fire started as the result of a light bulb becoming lodged between a metal shelf top and the fiberboard acoustical ceiling material in the course of moving the racks and replacing the tapes in the racks.

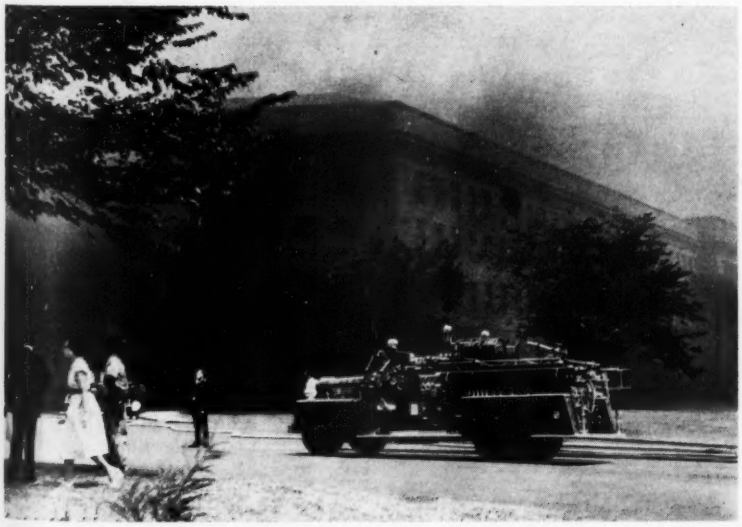
The inquiry has established that first odor of smoke was noticed at approximately 10:30 a.m. The source of the smoke was located as the storage room several minutes later. The storage room was opened at approximately 10:38 a.m. At this time, employees attacked the fire with carbon

What Caused The Pentagon Fire?

Firemen had to pierce corridor floor to get to seat of fire. Thick walls, ceilings and floors made the isolated security area hard to reach. Fire was believed started by light bulb lodged between metal shelf top and acoustical ceiling

A security guard patrols the fire-blackened ruins after Pentagon fire raged out of control for four hours. Air Force equipment, mostly tapes, suffered an estimated $500,000 loss

Firemen donned self-contained masks to reach the blaze. Dense smoke and fumes were attributed to plastic tape reels and containers. Inaccessibility of the area also hampered fire fighters



The Pentagon, huge defense headquarters across the Potomac River from Washington is almost obscured by smoke as fire fighters from General Services Administration, District of Columbia and area battle stubbon blaze

dioxide guns. The sounding of the alarm took place within the next few minutes and the first fire fighting company, the General Services Administration Department, arrived at approximately 10:47 a.m., about three minutes after the alarm was received. Within this interim several GSA guards had joined the Air Force personnel and upon arrival of the fire department, hoses had been prepared for their use by the GSA guards. Indications are that while the fire was of minor nature upon discovery, the blaze spread very rapidly once it obtained a start and had reached major proportions by the time the first fire fighters arrived.

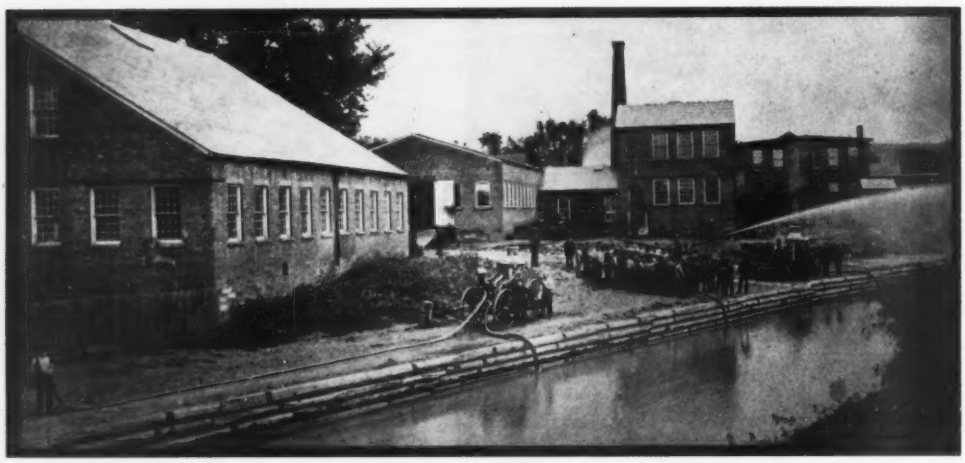
Dense smoke and fumes

The difficulty in fighting the fire and placing it under control was the direct result of the dense smoke and fumes resulting from the burning of the plastic-tape reels and containers and the inaccessibility of the area. The heavy black deposits found in adjacent areas after the fire were found to be directly attributable to the burning of this material. Tests conducted on this material indicated that the material was readily susceptible to ignition, burned with considerable heat and developed an extremely acrid and dense black smoke. The smoke after traveling a short distance from the blaze, accumulated in stringy black masses which readily floated through the atmosphere.

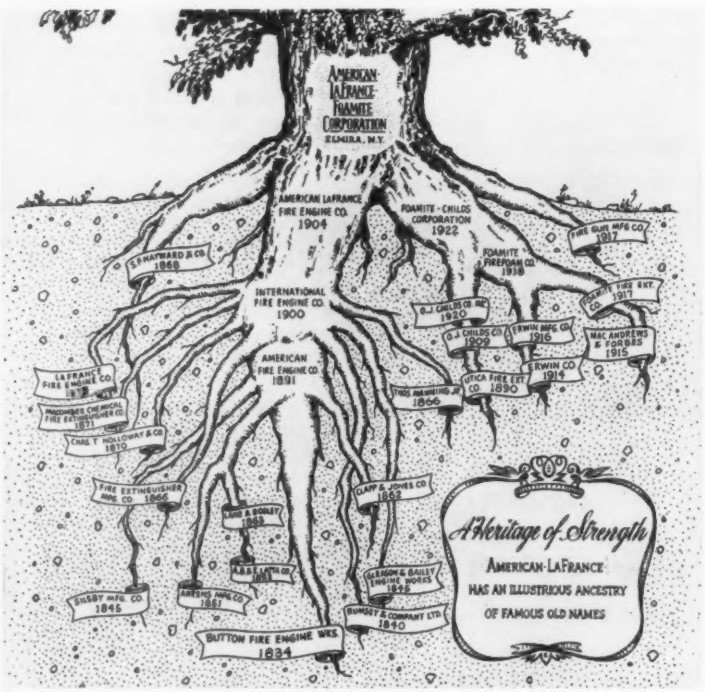
Structural damage to the building proper was confined to the area directly above the storage room, which

Continued on page 981

American LaFrance History Parallels Growth Of the Fire Service



Original Button Fire Engine Works at Waterford, N. Y. Two steamers and a hand pump are being tested using water from the old Erie Canal in foreground


AMERICAN-LAFRANCE-FOAMITE CORPORATION
ELMIRA, N.Y.
AMERICAN LAFRANCE FIRE ENGINE CO. 1904
FOAMITE-CHILDS CORPORATION 1922
FOAMITE FIREFOAM CO. 1938
INTERNATIONAL FIRE ENGINE CO. 1900
AMERICAN FIRE ENGINE CO. 1891
S.F. HAYWARD & CO. 1868
LA FRANCE FIRE ENGINE CO. 1873
PROGRESS CHEMICAL FIRE EXTINGUISHER CO. 1871
CHAS. T. HOLLOWAY & CO. 1870
FIRE EXTINGUISHER MFG. CO. 1866
SHELBY MFG. CO. 1845
AMERENG MFG. CO. 1867
BUTTON FIRE ENGINE WKS. 1834
KNOX & BOBLEY 1868
K.B.E. MFG. CO. 1865
CLAPP & JONES CO. 1852
GLEASON & BAILEY ENGINE WORKS 1835
HUNDLEY & COMPANY LTD. 1840
THOS. HARRINGTON JR. 1866
UTICA FIRE EXT. CO. 1890
ERWIN CO. 1914
ERWIN MFG. CO. 1916
O.J. CHILDS CO. 1909
O.J. CHILDS OF NJ. 1920
MAC ANDREWS & FORBES 1915
FIRE GUN MFG CO. 1917
A Heritage of Strength
AMERICAN-LAFRANCE
HAS AN ILLUSTRIOUS ANCESTRY
OF FAMOUS OLD NAMES

By HUGH WALKER

AMERICAN LaFRANCE is celebrating its 125th corporate anniversary of service to the fire departments in half the world. This is a record of continuous service unequalled on the American continent for a fire engine manufacturer and by few in any industry in the world.

The history of American LaFrance is almost a "Who's Who" of fire engine manufacturers for the past 125 years. Many illustrious names are included in the "family tree," each having contributed some important "know how" to produce a better product.

This century and a quarter of time covers almost the entire period of evolution of fire fighting from the bucket brigade to the modern efficient fire fighting equipment; from the days when brawn was a prime requirement for a fireman to the highly skilled and trained modern fire fighter.

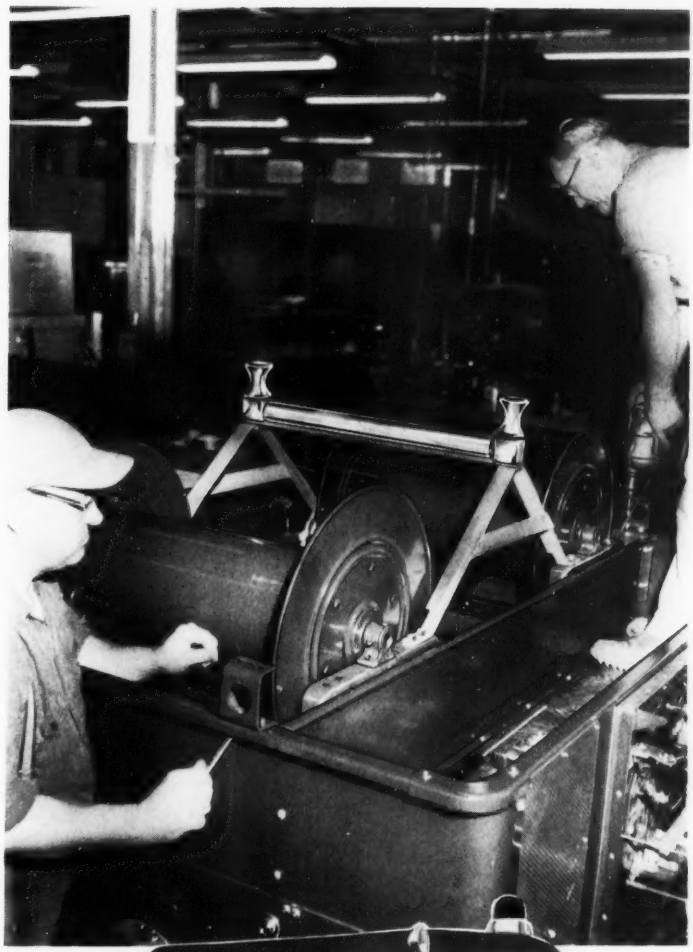
Prior to 1834, fire pumpers were imported from England, Germany and

Continued on page 952

1834

1959

125 years of continued growth
reflect the confidence of firefighters
everywhere in the dependability
of equipment and reliability of
service at American La France.
Everyone at Hannay
is proud of the contribution
they have made toward
this recognized achievement.

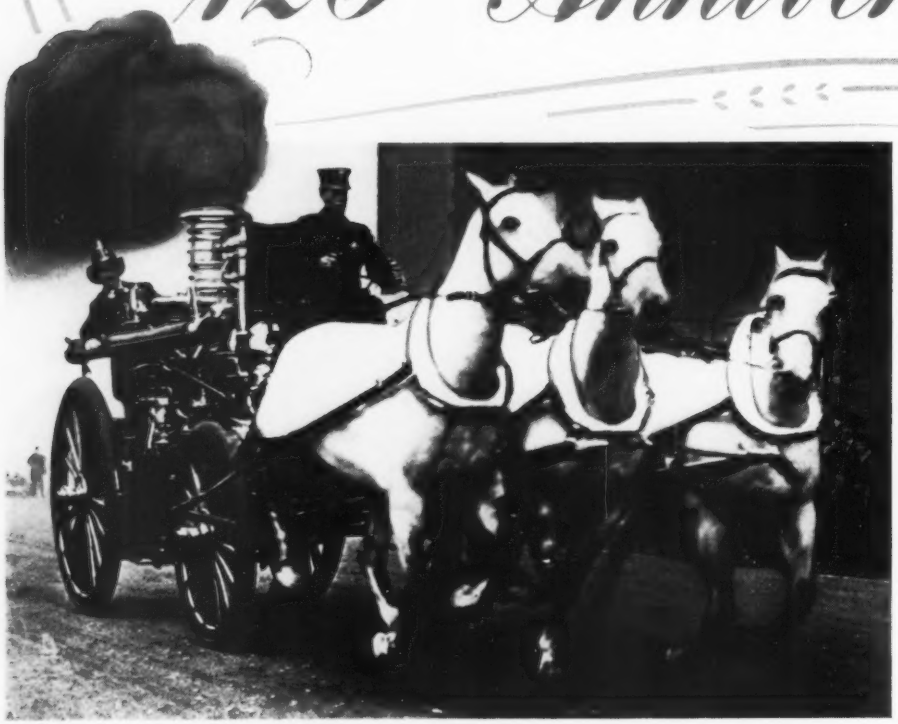


This new 900 Series American La France 750 gallon pumper is equipped with twin Hannay electric rewind hose reels and the Hannay chrome hose roller and spool assembly.

Designed and built by firemen . . . *Hose Reels by* **HANNAY®**

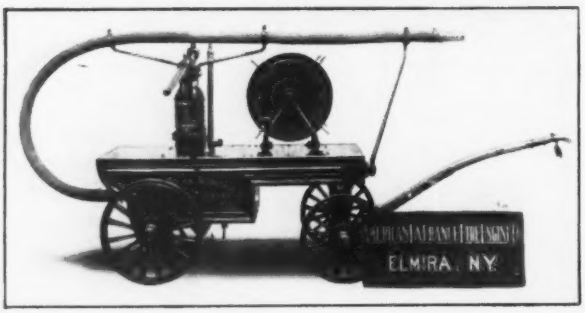
CLIFFORD B. HANNAY & SON, INC., WESTERLO, NEW YORK

The 125th Anniversary

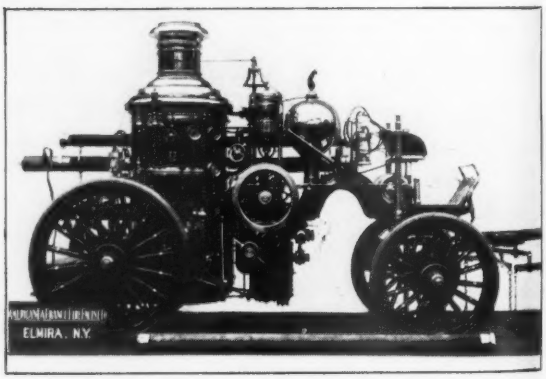


We have chosen Fire Prevention Week for celebrating our 125th year of cooperation with the fire service. Since 1834 we have made many changes and improvements in our fire engines. Briefly illustrated are types of fire engines and ladder trucks from the earliest to the newest modern fire fighter. The famous three horse hitch and steamer symbolizes a glamorous era in the fire service history. We built our last steamer in 1914.

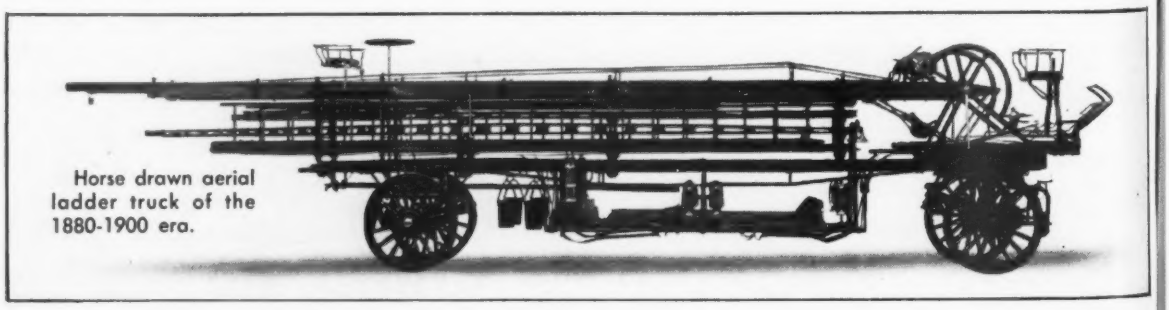
Photo courtesy L. Shuck



One of several types of hand drawn, hand operated pumper or "hand tub" we built from 1834 to 1906. The pump capacity ranged from 200 g.p.m. to 500 g.p.m. at 100 p.s.i. pressure. Many of the "tubs" show skill and craftsmanship on the walnut and maple inlay work on mahogany and other wood.

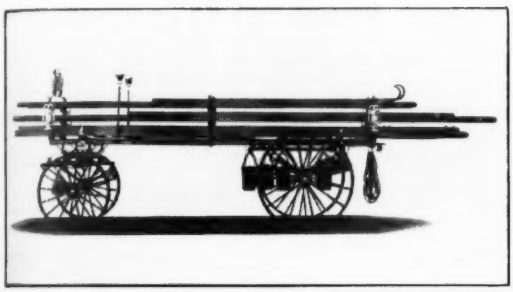


The "Metropolitan" steamer famous the world over. One occupies a place of honor in the Smithsonian Institute.

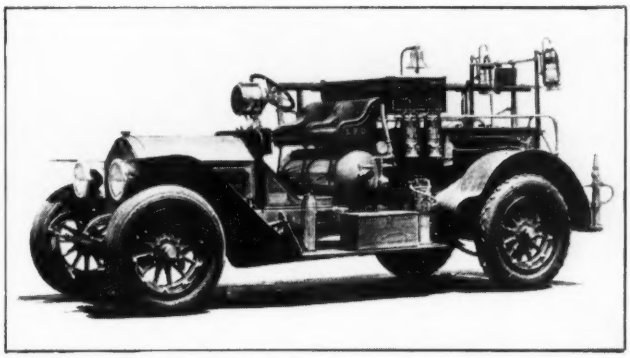


Horse drawn aerial ladder truck of the 1880-1900 era.

# of AMERICAN LAFRANCE

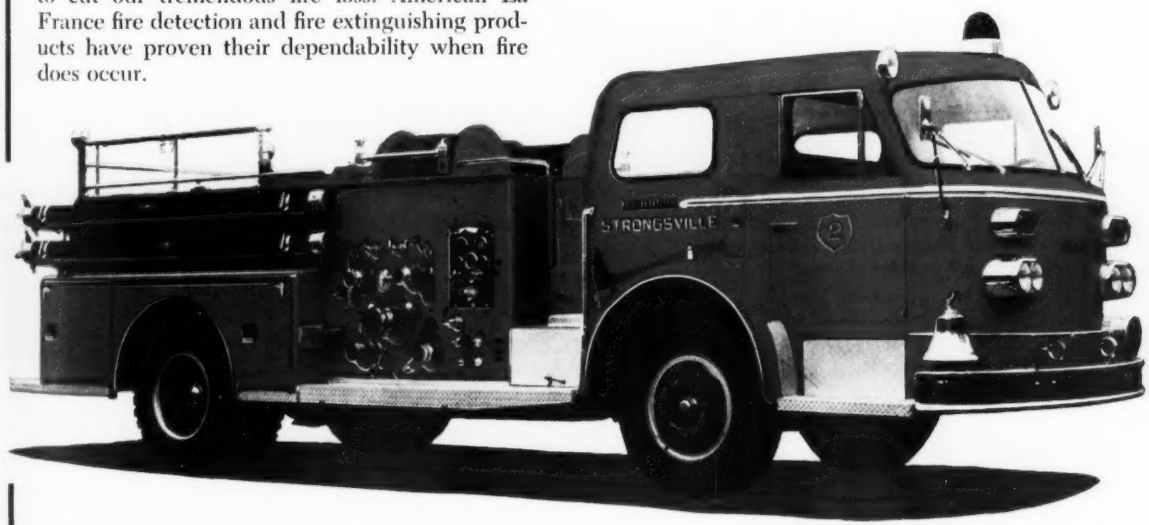


Hand drawn ladder truck. This type has evolved to our modern 4-wheel service aerial ladder truck.



The first production motorized American LaFrance fire engine was shipped to Lenox, Mass. in 1910. It is still in the fire department at Lenox.

Experience has proven that observance of fire prevention rules will save thousands of lives and keep many jobs for full employment. We sincerely wish the program of education to continue to cut our tremendous fire loss. American La France fire detection and fire extinguishing products have proven their dependability when fire does occur.



Our 125th Anniversary year sets new standards of Excellence and Leadership in the 900 Series fire engines. Experience in building the cab-ahead-of engine design for 12 years provides new features for greater performance and safety; less maintenance, greater utility and more efficient operation. Write for 900 Series brochure for full details.

AMERICAN LAFRANCE

A DIVISION OF STERLING PRECISION CORPORATION
ELMIRA, N.Y., U.S.A.

LaFrance Export Corporation Elmira, N. Y.

LaFrance Fire Engine and Foamite Limited
Toronto 9, Ontario, Canada

CONTINENTAL MOTORS

SALUTES AMERICAN LaFRANCE ON ITS 125th BIRTHDAY

CONTINENTAL-AMERICAN LaFRANCE MODEL V300 BHP DUAL IGNITION FIRE ENGINE POWER PLANT, USED IN AMERICAN LaFRANCE PUMPERS AND AERIALS

- One-piece chrome-molybdenum alloy iron crankcase.
- Built-in full-flow oil cooler.
- Full-length water-jacketing around cylinders.
- Sodium-cooled stellite-faced exhaust valves with positive rotation.
- Counter-weighted crankshaft, statically and dynamically balanced, with Tocco-hardened journals.
- Chrome-plated top piston rings.
- Leakproof water pump.
- Oil filter . . . and many other advanced features for high performance, long trouble-free life.

For 57 years, Continental engines have been building prestige for manufacturers of specialized equipment. And because the severe demands made upon fire-fighting apparatus emphasize the need for completely dependable power, Continental takes special pride in the fact that its engines are used in the new Series 900 American LaFrance. . . . In saluting this great industry pioneer and leader, now 125 years old, Continental Motors renews a long-standing pledge: The famous Red Seal trade-mark will continue to stand for rugged stamina, rightness of design and materials, and production knowhow dating from 1902. User experience proves that, today more than ever before, it's wise to choose the product with Continental Red Seal power.

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When firemen looked like this we supplied top quality components to American La France . . .

and when firemen look like this, we hope we'll still be one of their suppliers.

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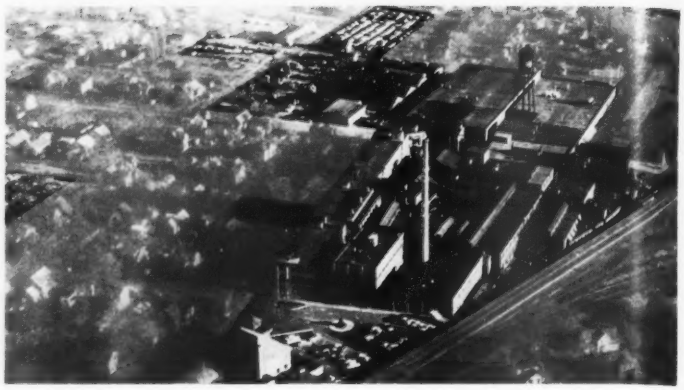
WOOSTER, OHIO

AKRON MFG. (CANADA) LTD.
AYLMER, ONTARIO

AKRON BRASS
FIRE FIGHTING EQUIPMENT

American La France History continued . . .



Modern home of American La-France factory in Elmira, N. Y., is one of the largest in the world devoted exclusively to fire apparatus and fire protection equipment manufacture

AMERICAN LAFRANCE

GLOBE

two great names in firefighting!

. . . both with long-standing, respected reputations in the industry; both working hand in hand to improve the safety, efficiency and comfort of the man with the greatest name of all — the FIREMAN.

Write for our illustrated catalog now

STANDARD SINCE 1901

GLOBE MANUFACTURING CO.
PITTSFIELD, NEW HAMPSHIRE

Holland and this continued until American production could meet the demand. In 1834, Lysander and Theodore Button organized the Button Fire Engine Company at Waterford, N. Y., with the factory on the bank of the Erie Canal, an ideal site for testing pumps. Seven different sizes of hand-operated pumps were manufactured most being hand drawn to the fire, and the largest of these required 60 men to operate. The Button Company also built a line of two-wheel and four-wheel hose carts.

From 1840 to 1852 four new companies were organized to build hand-operated pumpers or "tubs," hose carts, and ladder trucks. These were Rumsey & Company, Gleason & Bailey Engine Works, Silsby Manufacturing Co., and Ahrens Manufacturing Co., all destined to join with the Button Fire Engine Works and Clapp & Jones, to form the American Fire Engine Company.

The first successful steam powered fire engine was produced in 1852 by Moses Latta of Cincinnati, Ohio.* The A. B. and E. Latta Company was organized to build a fire engine as a result of citizen demand to provide better fire protection to stop the large fire losses that were occurring.

* "History of the American Steam Fire Engine" by William T. King.

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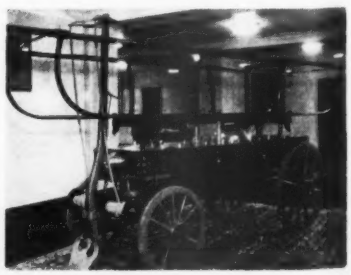
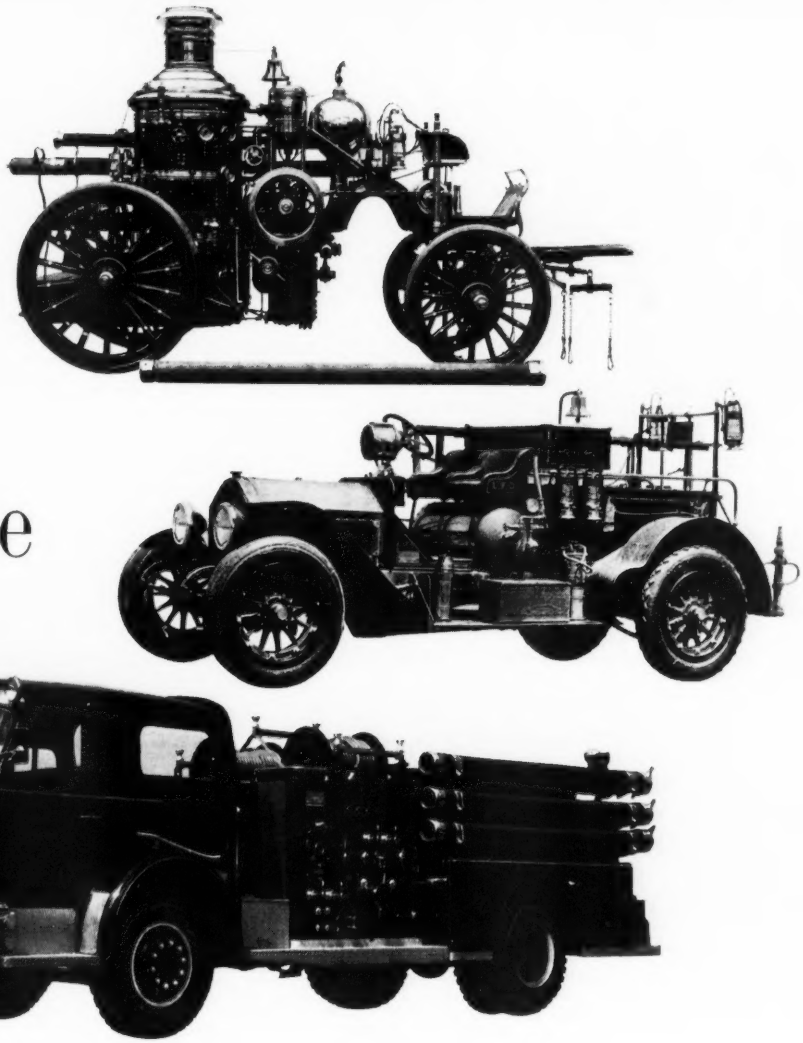


Button "piano-type" pumper preserved in the Smith Museum of the Home Insurance Co., New York City

125 years on the firing line



rates a real salute!

We take a lot of pleasure in adding our congratulations to the many others going to American LaFrance upon reaching this significant milestone.

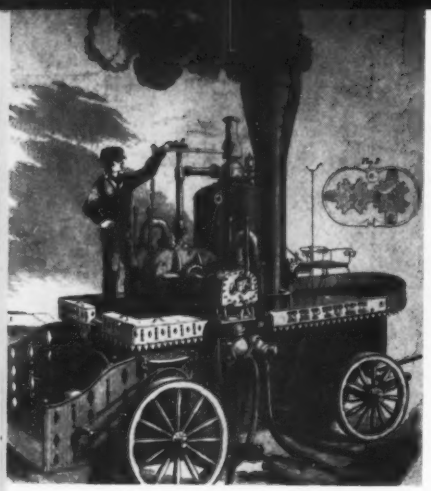
In the days when fire trucks were leather-bucketed, manpowered pumpers, this fine firm established its leadership. This fame grew in the era of the horse-drawn steamer. And their sleek, powerful apparatus of today is on the firing line in cities and towns the country over.

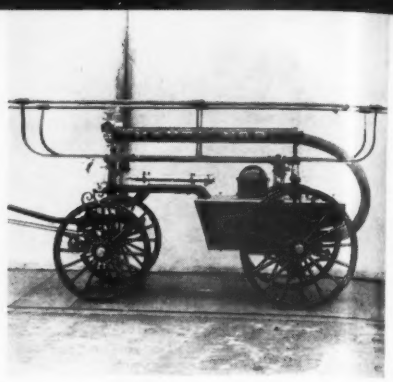
We at Goodyear like to think that we have contributed a little to this standout success story. We're proud that the hose on American LaFrance apparatus for more than 25 years has been Goodyear hose—that many of these units ride on Goodyear tires.

Naturally, we hope this close teamwork continues for many years to come. And we, once again, salute American LaFrance upon their 125th year—with best wishes for 125 more.

GOODYEAR

THE GREATEST NAME IN RUBBER





Left: The first Silsby steam fire engine. It received a public test at the Crystal Palace in New York City in 1856
Center: Steamer assembly floor at the factory in Elmira, N. Y., around 1905
Right: A "third-size" hand tub photographed by glass plate method before delivery

CONGRATULATIONS

TO

AMERICAN LA FRANCE COMPANY

ON YOUR

125TH ANNIVERSARY

FROM

MINE SAFETY APPLIANCES COMPANY

PITTSBURGH 8, PENNSYLVANIA

MSA SAFETY EQUIPMENT HEADQUARTERS

Continued from page 952

Lane and Bodley Company, Cincinnati, Ohio, organized in 1863 acquired all patents on the "Latta" steam fire engine and took over the manufacture.

The Ahrens Manufacturing Company also in Cincinnati and established in 1851 to produce hand pumpers, purchased the Lane and Bodley Company in 1867. This seems to be, from available records, the first consolidation of fire engine manufacturers.

The Silsby Mfg. Co. at Seneca Falls, N. Y., organized in 1845 built its first steamer, the first rotary-type pump for fire service use, in 1856. In 1862, the Button Fire Engine Works built its first steamer.

In 1872, the LaFrance Manufacturing Company was organized at Elmira, N. Y. The company was named "LaFrance" for the family name of the two principal organizers, T. S. LaFrance and the mechanical genius, Asa LaFrance. The first steam fire engine was built in 1875. The pump was a rotary type.

In 1880 the company reorganized as the LaFrance Fire Engine Company and adopted the policy of building only for fire service requirements. This is an important part of the American LaFrance policy today.

First aerial truck

In 1882 LaFrance built its first aerial ladder truck. The aerial was "D. D. Hayes" design and marked an important advance in aerial ladder design and operation. Several years later the "Babcock" ladder in a semi-trussed and full-trussed ladders was introduced.

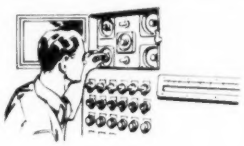
In 1884, LaFrance built its first piston-type pump steam fire engine. Due to a new type boiler and easy access to the valves, it out performed all its competition and was simple to operate.

The American Fire Engine Company consolidation of 1891 was not too successful as each company con-

Six reasons why Oberdorfer Castings are used in AMERICAN LAFRANCE products

1 Customized Engineering

A fresh engineering approach to every job.



2 Mechanized Production with latest equipment

For efficient, cost-saving results.

3 Advanced Quality Control

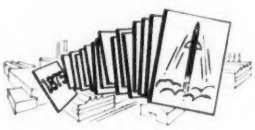
Assures uniform production to highest standards.

4 Latest Research and Development

To keep ahead on new processes and techniques.

5 Fast Technical Service

If problems arise, skilled personnel give on-the-spot consultation.



6 Proven Experience

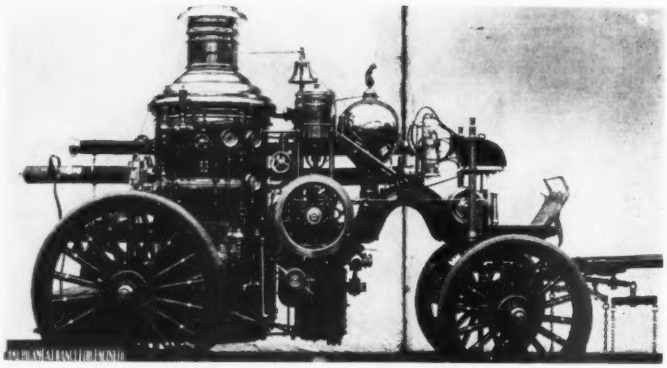
84 years of experience serving American industry – large and small.

OBERDORFER FOUNDRIES, INC., Syracuse, N.Y.

CASTINGS FOR INDUSTRY

aluminum • bronze • copper base alloys

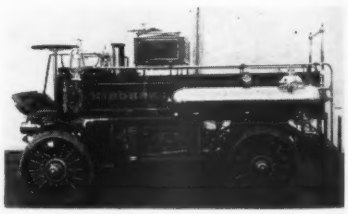
tinued to operate independently. In 1900, a new consolidation took place. LaFrance Fire Engine Company, American Fire Engine Company, Gleason and Bailey Manufacturing Co., Rumsey and Co., Waterous Fire Engine Co., Amoskeag Manufacturing Co. (Fire Engine Div. of Manchester Locomotive Works), Thomas Manning Jr. and Co., Fire Extinguisher Manufacturing Co., Charles T. Holloway & Co., S. F. Hayward & Co., and Macomber Chemical Fire Extinguisher Co. formed the International Fire Engine Co., with a complete line of fire engines, ladder trucks, and fire protection equipment.



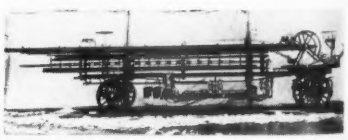
Metropolitan piston pump steamer circa 1884–1914

In 1904 the International Fire Engine Company was reorganized as the American LaFrance Fire Engine Company. All manufacturing operations, equipment and tools were moved to the LaFrance plant at Elmira, N. Y.

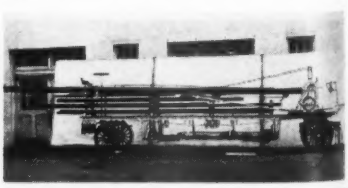
With the rapid development of the gasoline engine as a source of power, the industry was soon to experience a major change. Experimental work was started in 1904 to produce a fire engine powered with a 4-cylinder gasoline engine as the self-propelled steamer was too slow (20 miles per hour) to meet fire service demands for more speed on the improved streets. The first gasoline engine lacked the required power and was replaced with a 5-cylinder engine. This engine proved to be too heavy and totally unfit for fire service. A new 4-cylinder engine was then purchased from Simplex and a pumper with this engine was exhibited and tested at the Fire



Steam-propelled combination wagon circa 1900–1906



Hayes horse-drawn aerial ladder circa 1882



Gleason & Bailey horse-drawn aerial circa 1900

LONGER SIGHT...

Only the NEW DIETZ

REVOLVING LIGHT gives you all these advantages

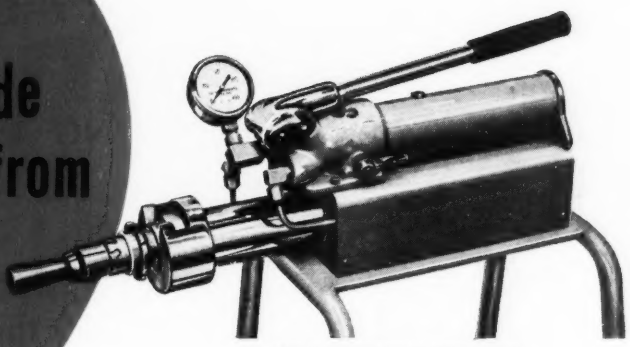
- Greater lens area—complete 360° visibility over greater distances
- Lower height—only 8¾ inches
- Frequency beam can be 30, 60, 90 or 120 per minute according to number of sealed beam bulbs installed—one, two, three or four respectively
- Dome lens easy to remove—only necessary to remove one brass bolt
- Rust-proof chrome-plated brass base and lens rim mounts on thick rubber pad—conforms to contour of car roof
- Shock-resistant lucite dome available in red, amber, blue or clear.

Go DIETZ and you go Safely

Write for complete details

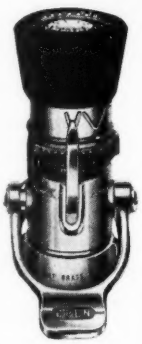
R. E. DIETZ COMPANY, 225 Wilkinson St. Syracuse 1, New York

A matter of pride in every product from ELKHART BRASS



No. 422 HAN-DRAULIC EXPANDER

Attaches expansion ring coupling by hydraulic pressure. Has individual size segments. Quick change.

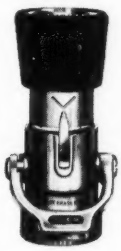


No. SFL-200-SOS

SELECT-O-FLOW
CONSTANT FLOW MYSTERY NOZZLE

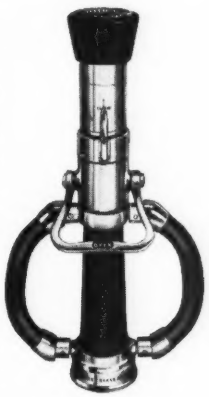
Will handle variable gallonage from 60 to 125 G.P.M. at 100 p.s.i. Change gallonage without shutting down line. All fog patterns and straight stream. Underwriters' approved.

. . . AND A MATTER OF EQUAL PRIDE TO EXTEND OUR BEST WISHES TO AMERICAN LAFRANCE ON THEIR 125th ANNIVERSARY



SELECT-O-STREAM MYSTERY NOZZLES

In 1", 1½", 2½" sizes. Select stream by sight or touch. Locks to stream you choose. Shuts off in any position. From straight stream through 30° to 90° fog pattern.



No. B-800 SOS

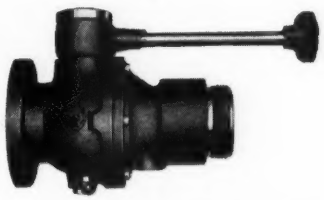
New! Improved! Exclusive Dial-A-Tip feature gives a variable straight stream equivalent to straight tips from ⅞" to 1¼". Has 30°, 60°, 90° fog positions.

No. 288 LADDER PIPE

Handles the full capacity of a 3" supply line. Quick action clamping device. Operates both vertically and horizontally. Available with 2½" or 3" swivel inlet. Supplied with set of ropes for ground operation.

No. X-329 X-TRUDE COUPLING

For 1½" and 2½" single or double jacket fire hose. Noncorrosive, forged brass coupling approximately one-half the weight but considerably stronger than a cast coupling.



No. BT96 2½" APPARATUS VALVE

Has adjustment feature on outlet side of valve. New twist-to-lock quarter turn handle. Holds vacuum or pressure. Full waterway.

ELKHART BRASS MFG. CO., INC.
ELKHART, INDIANA
More than half a century of fire fighting progress

DEPENDABILITY

ESSENTIAL TO FIRE FIGHTING EQUIPMENT

During 125 years American La France has proven its preeminence in the field of fire fighting equipment.

Adirondack Steel Casting Company is proud to have helped by providing American La France with dependable steel castings.

ADIRONDACK STEEL CASTING COMPANY
A Division of Consolidated Foundries and Mfg. Corp.
WATERVLIET, NEW YORK

Engineers Convention in Syracuse, N. Y. in 1909. Also exhibited were pumpers built by Webb Fire Apparatus Company of St. Louis, Mo.; Knox Company of Springfield, Mass; and the Leutweller Company of Rochester, N. Y.

The fire chiefs were not impressed by these new pumpers. One reason was inability of any of the pumps to produce more than 80 psi pressure. The following year (1910) with a new and larger 4-cylinder engine, acceptable performance was obtained, and production of motorized pumpers started. This same year marked the end of production of hand-operated pumpers. The last steam fire engine was built in 1914.

The introduction of 6-cylinder engines made possible better pumping and road performance.

At the International Association of Fire Engineers Convention in 1916 at Providence, R. I., American LaFrance conducted 12-hour tests on three types of pumps, rotary gear, centrifugal, and piston, all passing the test and out pumping all competitors. The three types were sold until 1930 when the piston pump was discontinued.

In 1927, a considerable number of fire extinguisher manufacturers joined

Continued on page 971

SIRENO
WORLD'S LEADING MANUFACTURER

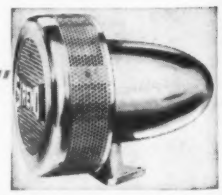
Congratulations to American LaFrance on their 125th Anniversary

No. RJ-1-8 "ROCKET" SIREN

AMERICAN LAFRANCE CORPORATION
has selected the "SIRENO" Model No. RJ-1-8 "ROCKET" siren as standard equipment on their popular new "900" Series. The high performance standards of American LaFrance fire fighting apparatus require the use of highest quality signalling devices . . . "SIRENO" sirens and warning lights.

No. 192-ST "REVOLVO-RAY" STANCHION MOUNTING

No. ED-10 "JET STREAM" SIREN



AMERICAN LAFRANCE CORPORATION "900" SERIES
1000 G.P.M., CLOSED-CAB MODEL SHOWN
ABOVE WITH "SIRENO" SIREN AND WARNING LIGHT

WRITE FOR FREE BROCHURE NO. 27

THE SIRENO CO., INC.
214 WILLIAM ST., NEW YORK 38, N. Y.

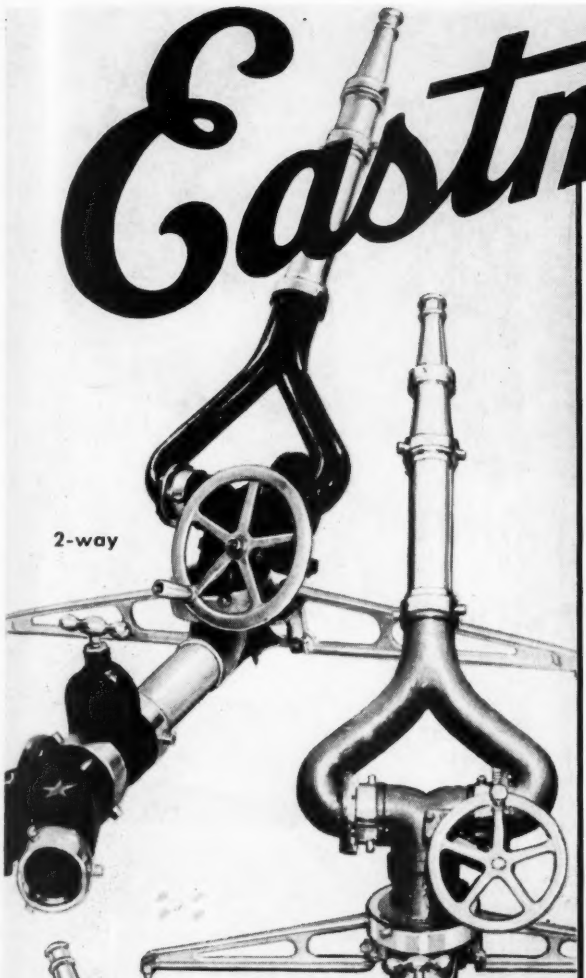
Eastman

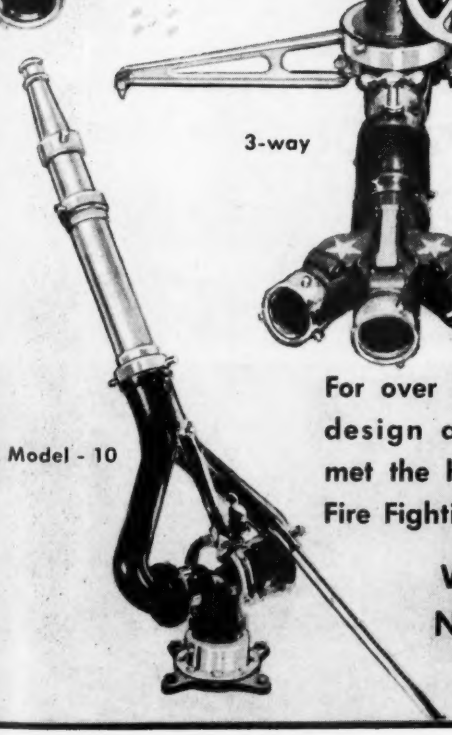
congratulates
AMERICAN LAFRANCE
on its 125th anniversary

— • —

Good equipment helps make any apparatus a better fire fighting unit. We are proud to have worked with American LaFrance . . . and other builders in providing the finest fire fighting equipment possible.

Since 1824




Model - 10

Model - 20

SCCO INC. CONCORD, NEW HAMPSHIRE ®

For over 125 years, Eastman design and engineering has met the highest standards for Fire Fighting Equipment.

Write for Bulletins No. 1-56 - No. 2-56

SAMUEL EASTMAN CO., INC. · Concord 5 , New Hampshire

THANKS!

"Our experience with McIntire nozzles and valves has been so satisfactory over the past years that we use many of them in American LaFrance construction. The workmanship has always been excellent, and the equipment furnished has been eminently satisfactory to the fire service. It is a high quality product that we use wherever possible."

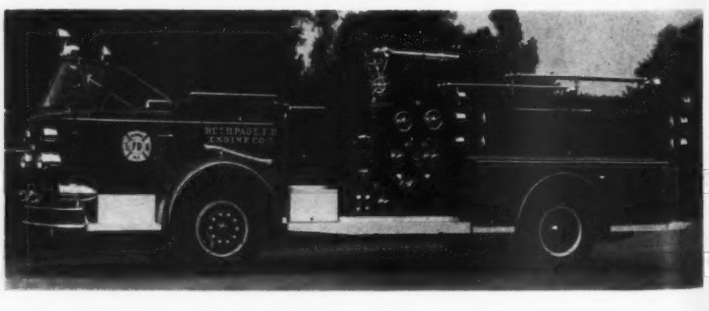
Excerpt from
American LaFrance letter

The F. N. McIntire Brass Works Inc. wishes to take this opportunity to congratulate the American LaFrance Corporation on its 125 years of dedicated service to the fire fighting field. Having manufactured Invincible Nozzles and component valves and parts for American LaFrance Corporation over the period of a great number of years, it gives us great pleasure to have been a contributing factor to the success of American LaFrance Corporation.

To be sure - SPECIFY —

"INVINCIBLE"

- - - MONITORS
- - - DECK GUNS
- FIRE DEPARTMENT
- - - BRASS GOODS



For catalog or specific data — write . .

F. N. McINTIRE BRASS WORKS INC.

Cambridge 39, Massachusetts

DUO Safety

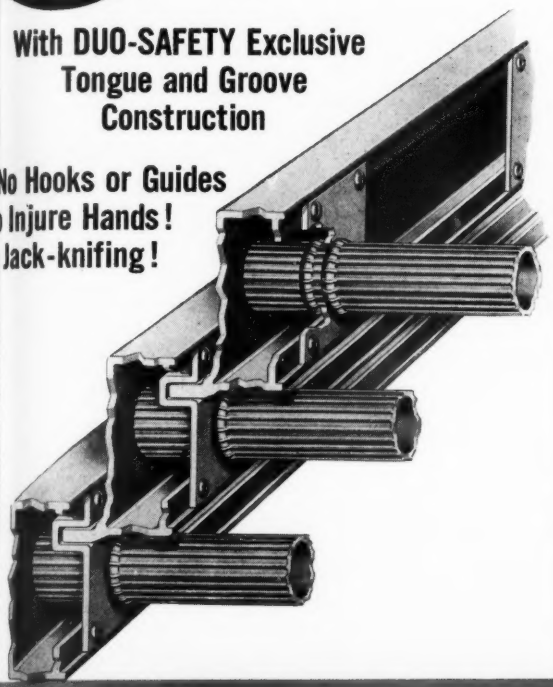
...is proud that this complete line of

FIRE LADDERS

has been a part of AMERICAN LA FRANCE'S 125 years of success!

With DUO-SAFETY Exclusive Tongue and Groove Construction

No Hooks or Guides to Injure Hands! Jack-knifing!



Now, there's a Duo-Safety Ladder for every budget...for every use. The new Series 1200—an intermediate ladder—fills out the line to offer you a bigger choice of better ladders. Check the specifications below...you'll find the ladder for your requirements. Write for more information and prices.

Choose the Series to fit your needs!

SERIES 1000	For Pumper Use	24′ to 30′	2¾″ CHANNEL RAIL
SERIES 900	For Pumper and Service Trucks	24′ to 40′	3¼″ CHANNEL RAIL
SERIES 1200	For Service Trucks	35′ to 55′	3¾″ CHANNEL RAIL
SERIES 500	For Service Trucks	10′ to 60′	TUBULAR RAIL

Including the new

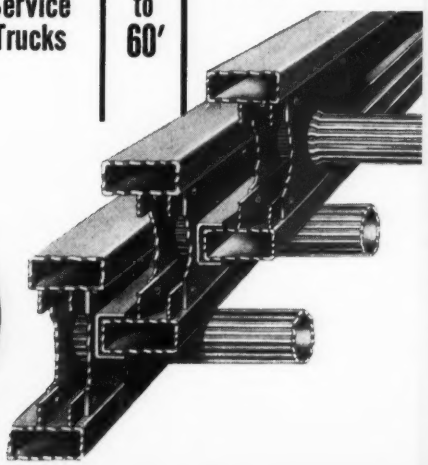
INTERMEDIATE SERIES 1200

The new 1200 Series at budget fitting prices in the famous Duo-Safety line is an intermediate ladder to take care of a range of sizes where requirements are not sufficiently severe to necessitate buying the Duo-Safety heavy duty 500 Series tubular rail!

Write for complete information and prices!

For Great Strength, Extraordinary Safety!

Adapted nationally by fire departments as standard ladder equipment, the 500-A Series represents perfection of ladder design. Light weight, greater strength and extraordinary safety are incorporated into the Tubular Rail Construction of this great ladder. Available in all standard ladder sizes 10′ to 60′.



DUO Safety

DUO SAFETY LADDER CORP.

3 WEST NINTH AVENUE • OSHKOSH, WISCONSIN

Canada: La France Fire Engine and Foamite, Ltd., Ontario

The G&O MANUFACTURING CO.

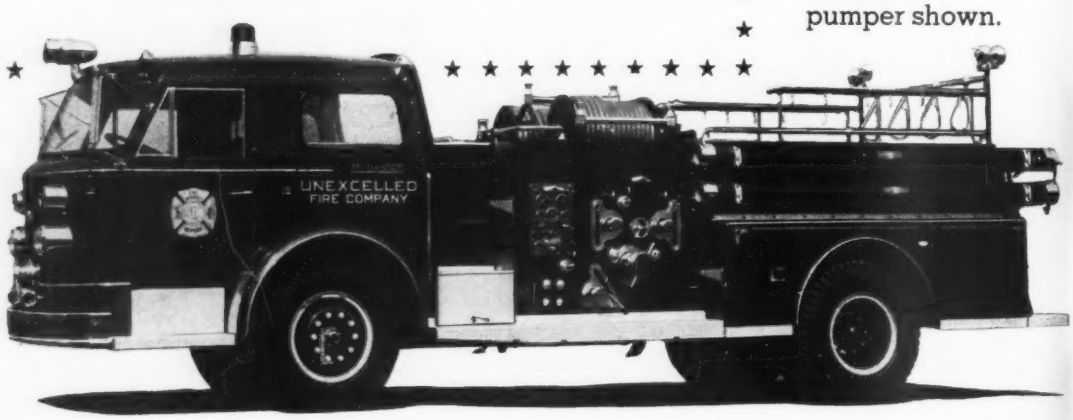
Salutes

125 Years of Progress

by

AMERICAN LAFRANCE

An outstanding example of modern design in fire fighting apparatus is the #900 series, custom-built pumper shown.



G & O is proud to have been selected by American LaFrance over the last two generations as the supplier of radiators best able to meet their rigid standards of quality and durability.

G & O has specialized in the manufacture of competently engineered and custom-built radiators for heavy duty service since 1915.

The G&O MANUFACTURING CO.

136 Winchester Ave.
New Haven 8, Conn.

1420 Ridgeway St.
Jackson 3, Miss.

G&O RADIATORS

AMERICAN LAFRANCE

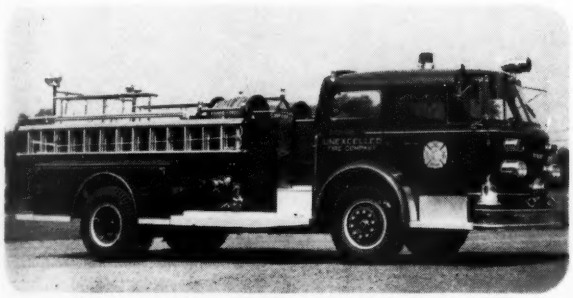
1834-1959

Original Manufacturer of Aluminum Ladders

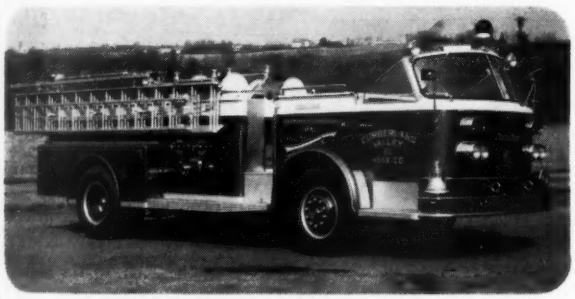
ALCO-LITE

To provide safe, easy-to-handle ladders

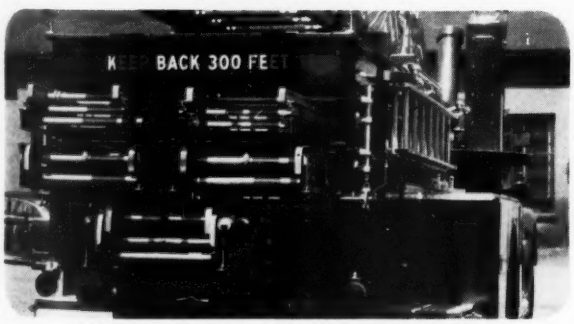
American LaFrance uses Alco-Lite Aluminum Ground Ladders as standard equipment on their 900 Series Pumpers and Aerial Ladder Trucks



Shown is an Alco-Lite 14' PRL and 24' PEL Ladder on a 900 Series Pumper for Neptune, N.J.



This 900 Series Pumper for Shippensburg, Pa. carries an Alco-Lite 14' PRL and 35' PEL Ladder.



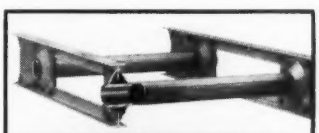
This typical nesting of Alco-Lite Ladders on American LaFrance Aerials includes a 24' PEL, 20' SL; 35' 2EL; 28' PEL; 16' PRL, 35' 2EL and 50' 3EL Ladder.

Alco-Lite Aluminum Ladders are one of the important reasons why American LaFrance Trucks offer so many outstanding performance features to the fire service.

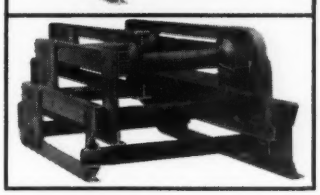
An exclusive Alco-Lite double gusset plate, expansion bushing construction makes possible an open side rail, T-channel design. This eliminates all the excess, weight-adding bulk in the side rails. The result is an extremely strong, lighter weight ladder which more than meets all test requirements for strength and safety.

Alco-Lite Aluminum Ladders are not affected by moisture, water, fumes, or gases. They will not warp, rot, splinter, or burn. They are almost maintenance free!

Exclusive Alco-Lite construction keeps rungs from twisting, turning, or breaking off.



Channel slides prevent sections from disengaging. Automatic spring loaded locks allow sections to extend, lock, and unlock simultaneously.



Aluminum Ladder Company

ALCO-LITE

FLORENCE S. CAROLINA

what is the recipe for 125 years of success...

LUCK?... certainly not! If luck were a major ingredient of business success, there would be little challenge, little incentive for competitive creativity—a prime stimulant for progress.

INTEGRITY?... most certainly yes! A successful business must be born and raised in a corporate climate of dignity and honesty reflected throughout the entire organization. Fortunately, corporate integrity is not for sale on the open market... it is earned only through a stubborn refusal to compromise any of the basic tenets of fairness in all relationships with employees, customers and suppliers.

PRODUCT SUPERIORITY?... a heaping measure is a must! Craftsmanship is *not* a lost art. Selling *superiority* is still far more profitable and enduring than selling *price.*

PROGRESSIVE MANAGEMENT?... the invaluable catalyst for "keeping" qualities! Obviously, materials and machines are primary ingredients for *mechanically* producing a product. But business success cannot be built on a wholly mechanical basis. It takes progressive thinking men... men with vision to anticipate and project, determination to strive for the best, flexibility to accept change, courage to reject inferiority and maturity to utilize experience.

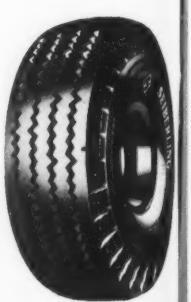
These, we believe, are basic ingredients of the recipe for the success of American LaFrance over the past 125 years... and, we are certain, will be for many years to come.

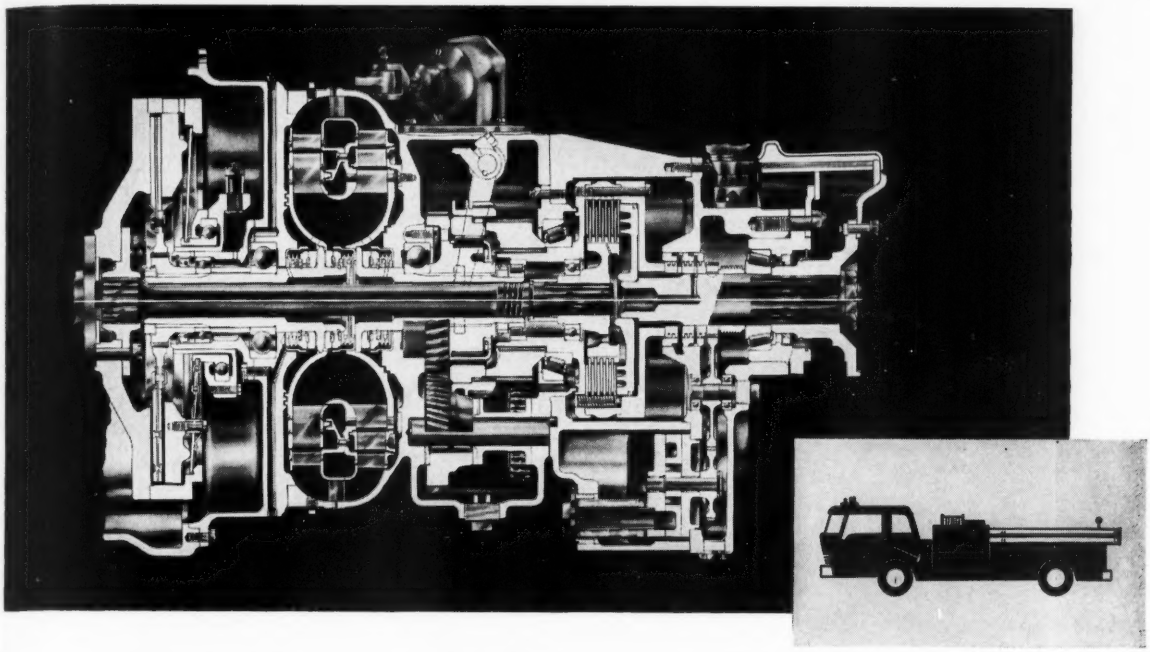
Seiberling tires, a product of this same business recipe, have been original equipment on American LaFrance vehicles for many, many years. We feel sure that the extra safety, dependability and quality of Seiberling tires have made an important contribution to the enviable dominance of American LaFrance as the world's leading manufacturer of Fire Apparatus and Fire Protection equipment.

Makers of America's Finest Tires

SEIBERLING

SEIBERLING RUBBER COMPANY • AKRON, OHIO





Spicer 183 Turbo-Matic For Year 'Round Reliability

From hilly San Francisco to teeming New York City—wherever fire fighting equipment is operated—unfailing reliability is of prime importance. There's one heavy-duty transmission that can give you this reliability always . . . the Spicer 183 Turbo-Matic.

The secret of Turbo-Matic reliability is its fundamental simplicity of design. By multiplying available engine torque as much as 5.6 times, the torque converter features of the 183 Turbo-Matic automatically help bring your fire fighting equipment quickly and smoothly to the optimum range for top speed and maximum fuel economy.

When your fire fighting equipment reaches cruising speed a hydraulically operated clutch by-passes the torque converter and couples the drive shaft directly to the engine. So, regardless of load or terrain, you get fast, smooth, uninterrupted acceleration at all times.

With the 183 Turbo-Matic the accelerator is the only necessary control. Mental and physical hazards of emergency high-speed driving are materially reduced. Driver training time is cut to a minimum . . . with further savings to you.

Write for the free illustrated booklet—No. 806—which describes the features of the 183 Turbo-Matic transmission. Or, ask the Dana engineers to help you adapt it to your fire fighting vehicles.

DANA Spicer

DANA CORPORATION

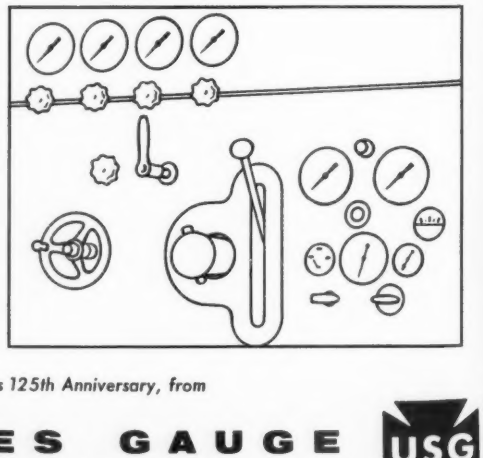
Toledo 1, Ohio

Serving Transportation— Transmissions • Auxiliaries • Universal Joints • Clutches • Propeller Shafts • Power Take-Offs • Torque Converters • Axles • Powr-Lok Differentials • Gear Boxes • Forgings • Stampings • Frames • Railway Drives

Many of these products are manufactured in Canada by Hayes Steel Products Limited, Merritton, Ontario

Where there's fire fighting equipment, there are USG Gauges . . .

Manufacturers of the country's most famous and dependable fire fighting equipment look to United States Gauge regularly for requirements in indicating dial pressure gauges. For USG features the world's largest stock . . . over 50,000 standards plus a wide range of specials. One call to one source quickly puts you next to the exact gauge for your purpose and at the right price. Helps you control costs, guarantees the performance and accuracy you are looking for and simplifies your gauge buying. Take a closer look at the USG line and facilities today. Write for Catalog 64A.



Congratulations to American LaFrance on its 125th Anniversary, from

Find Your Nearest Distributor in The 'Yellow Pages'

UNITED STATES GAUGE

Division of American Machine & Metals, Inc., Sellersville, Penna.

USG®

TO AMERICAN LAFRANCE

Congratulations

on 125 years of continued growth

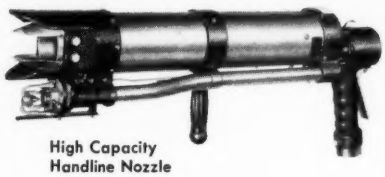
For outstanding AMERICAN LAFRANCE fire-rescue vehicles . . .

Type 0-10

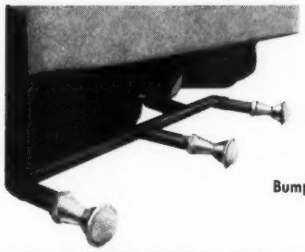
Type 0-11A

Type 0-11B

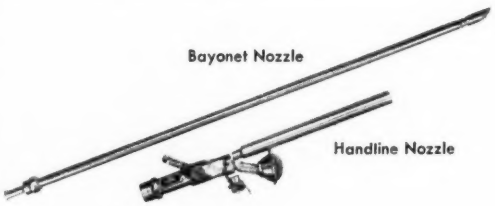
Rockwood is proud to supply vital accessory equipment



High Capacity
Handline Nozzle

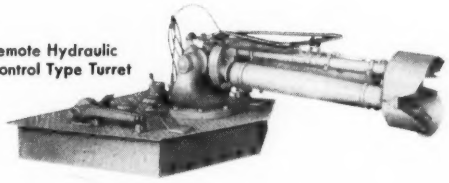


Bumper Nozzles



Bayonet Nozzle

Handline Nozzle



Remote Hydraulic
Control Type Turret

To Rockwood Sprinkler Company the 125th Anniversary of American LaFrance signifies many years of working with this leading manufacturer in the production of fully equipped, highly efficient fire apparatus.

In particular, American LaFrance has selected various types of Rockwood fire-fighting products for use on fire-rescue vehicles developed for Air Force service. Included are Rockwood turrets, handline nozzles, bumper nozzles, etc., in systems designed to fight fire four ways: with FogFOAM, solid FOAM stream, WaterFOG or Solid Water Stream.

On fire-fighting trucks at civil as well as Air Force airports . . . in municipalities . . . in refineries and throughout industry . . . Rockwood advanced fire-fighting aids are constantly proving their ability to extinguish fire faster.

For a large, illustrated booklet on this complete line, write to Rockwood Sprinkler Company, Portable Fire Protection Division, 444 Harlow St., Worcester 5, Massachusetts.

ROCKWOOD SPRINKLER COMPANY

A Division of The Gamewell Company

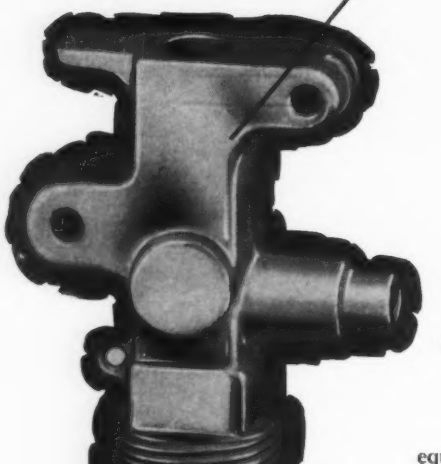
Engineers Water . . . to Cut Fire Losses

Distributors in all principal cities

CONGRATULATIONS TO

AMERICAN LAFRANCE

on their 125th Anniversary from MUELLER BRASS CO. producers of essential forgings for the famous PROTEXALL FIRE EXTINGUISHERS

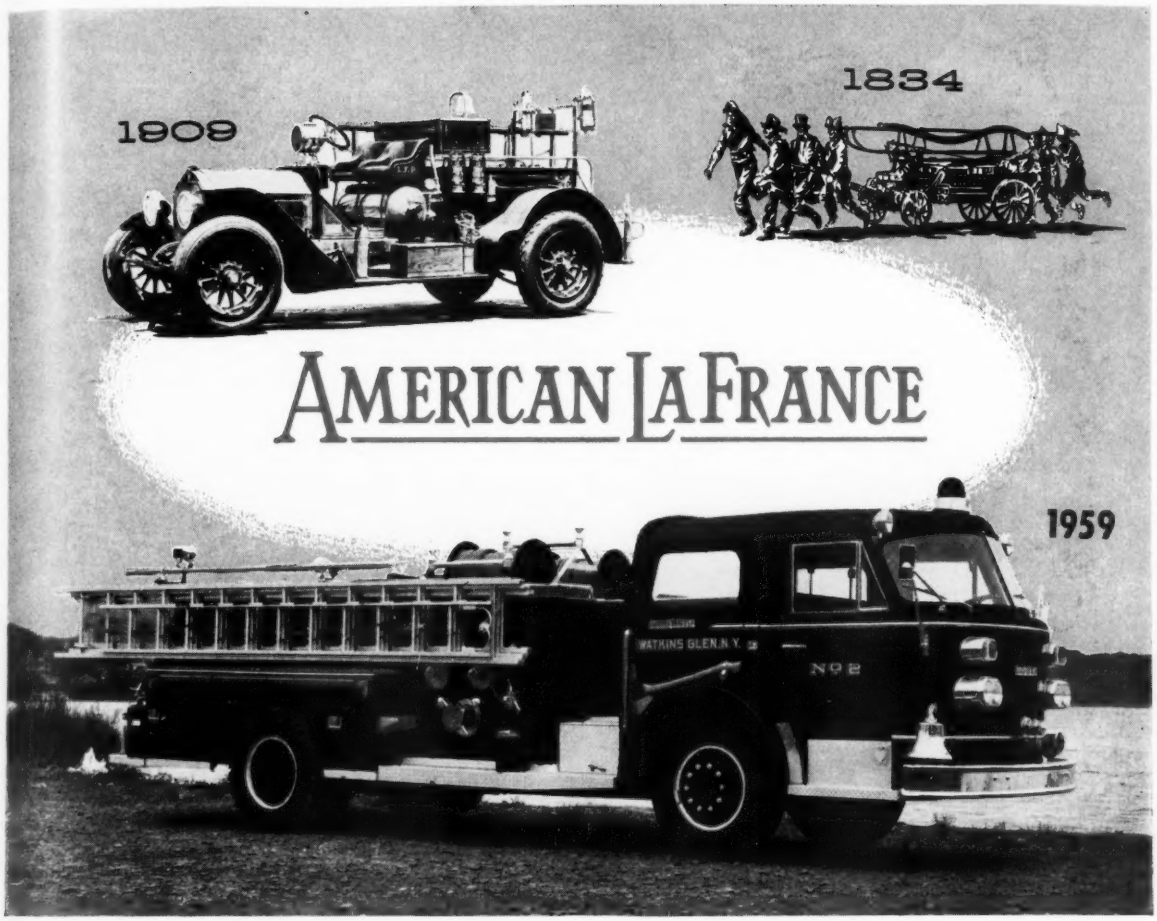


The bronze forging produced by the Mueller Brass Co., in addition to reducing finishing and machining time required, adds to the clean, attractive exterior of the famous American LaFrance Protexall Dry Chemical Extinguisher. And, of equal importance, this forging provides uniform strength and constant safety for the operator.

Mueller Brass Co. is pleased to be a supplier of quality forgings for a quality product of this distinguished 125 year old company, American LaFrance, a division of Sterling Precision Corporation.

MUELLER BRASS CO.

PORT HURON, MICHIGAN



TRUSTWORTHY... FOR 125 YEARS

For 125 years, American LaFrance, Elmira, New York, has been building fire fighting equipment. In 1834 the company was building hand pumpers, in 1845 produced horse-drawn steam engines, in 1900 self-propelled steamers and in 1909 the first motorized production fire truck, shown above.

As a result of 125 years of experience, American LaFrance has learned the value of quality components for the construction of equipment which must be absolutely reliable. That's why the company has standardized on Fuller Transmissions for its versatile new 900 Series Fire Trucks. Mr. H. Walker, Manager, M. F. A. Sales Engineering, says, "We have used Fuller Transmissions for years and have found them eminently satisfactory. Since our fire trucks remain in operation from 20 to 40 years, long life is very important—and we get it from Fuller Transmissions."

FULLER

TRANSMISSION DIVISION
MANUFACTURING COMPANY
KALAMAZOO, MICHIGAN
Subsidiary EATON Manufacturing Company

Unit Drop Forge Div., Milwaukee 1, Wis. • Shuler Axle Co., Louisville, Ky. (Subsidiary) • Sales & Service, All Products, West. Dist. Branch, Oakland 6, Cal. and Southwest Dist. Office, Tulsa 3, Okla. Automotive Products Company, Ltd., Brock House, Langham Street, London W.1, England, European Representative

Another quality component of AMERICAN LAFRANCE

RINSHED-MASON LACQUER

offers deep lustrous beauty and highest color stability

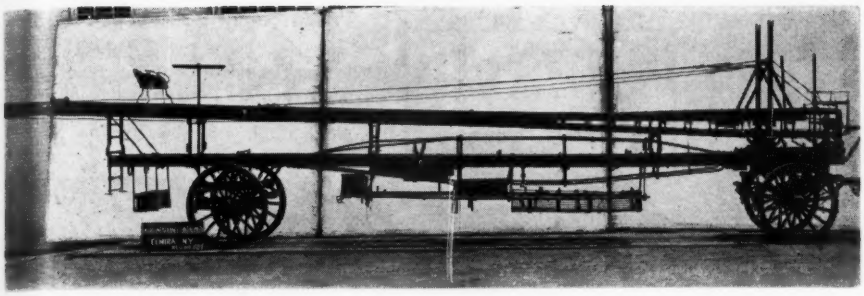
Rinshed-Mason Fire-engine red lacquer—used exclusively by American LaFrance—is the finest automotive lacquer manufactured today. This deep, rich, lustrous red retains its original striking beauty for the countless years of service expected of American LaFrance equipment.

RINSHED-MASON COMPANY, INC.

manufacturers of advanced finishes for fire apparatus and other quality products of America's industry

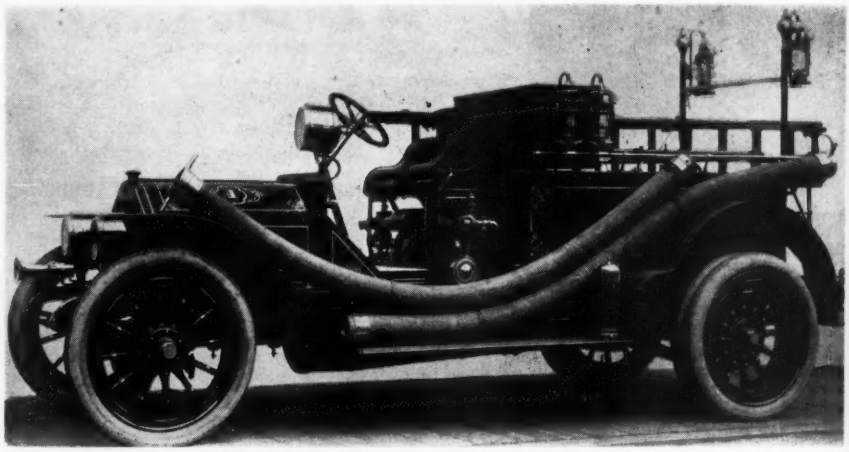
DETROIT 10, MICHIGAN • ANAHEIM, CALIFORNIA • WINDSOR, ONT., CANADA

R-M



◀ *Improved "Babcock" aerial. Note semitrussed side rails on butt ladder*

A popular pumper in the 1900–1918 era was the 4-cylinder American La-France with rotary pump ▼



AMERICAN LaFRANCE

Continued from page 958

American LaFrance to form the American LaFrance Foamite Corporation (see "family tree" chart). The acquisition of these companies added to the scope of products, one of importance being "Foamite," known the world over for its effective extinguishment of flammable liquid fires.

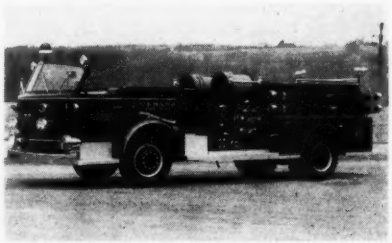
The next important product change was the introduction of the V-12 engine in 1930 for increased power and performance. This engine made possible the production of pumpers with 1500 gpm rating.

The next important development was the all steel aerial ladder with full hydraulic power (1938) and the four-wheel aerial of cab-forward design with ladders up to 100 feet.

In 1943 at the Chicago, Ill., conference of the International Association of Fire Chiefs, a symposium of design was held to obtain the benefit of fire service experience and needs for post-war manufacture. As a result, American LaFrance, in 1947, changed to full line production of the cab-ahead-of-engine design. It is significant that all the major fire engine builders are offering cab-ahead-of-engine apparatus, proving again that all major improvements have been initiated by the fire service to meet their specific requirements.

American LaFrance owes its existence to the fire service, and recognizes this obligation and confidence. The success of the company is indicative of its best efforts to provide efficient products of high quality and dependability for emergency fire service.

A change in corporate structure was effected in 1956 when American LaFrance became a division of Sterling Precision Corporation. This change was important as it further strengthened financial resources, permitting factory and facility expansion to meet the increasing needs of the fire service. Additional research and development has also been possible to provide new and improved products. □□



Modern half-cab-ahead pumper retains none of original design characteristics of early American LaFrance engines

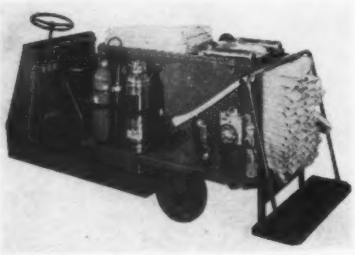
Full-cab-ahead pumper is typical of high-volume yet versatile engines constructed in keeping with present-day methods

WHAT'S NEW

Among the Manufacturers

- products
- processes
- personalities

Industrial Fire Truck



Electri-Car Division, Victor Adding Machine Co., 3900 North Rockwell, Chicago 18, Ill., is producing an electrically driven three-wheel fire truck designed to operate in narrow factory aisles. It is claimed the unit can carry up to five men plus one ton of equipment.

The apparatus can be built to accommodate specific requirements and the unit pictured is equipped with 200 feet of hose, three nozzles, 14 extinguishers, asbestos gloves and blankets, axes, etc.

New Safety Fire Boot

Lehigh Safety Shoe Co., Emmaus, Pa., announces the Fire-Master safety boot, said to include a new, highly flexible, antipuncture midsole and a steel toe cap. It is claimed the steel toe cap withstands pressures up to 2,000 pounds and it takes 235 pounds of thrust to drive a 10-penny nail through the midsole.

New Dodge Trucks

Dodge Trucks, Detroit 7, Mich., has introduced its 1960 line of medium and high-tonnage trucks which feature cab-forward design, Servi-Swing fenders and offer a choice of 11 gasoline engines or four Cummins diesel engines. Horsepower ranges are 113 to 228 with gasoline or 175 to 220 in diesel. Also introduced is a new line of Power-Wagon four-wheel-drive units. They are available with 6 or 8-cylinder engines and gross vehicle weights up to 20,000 pounds.

Scott Marks High Point

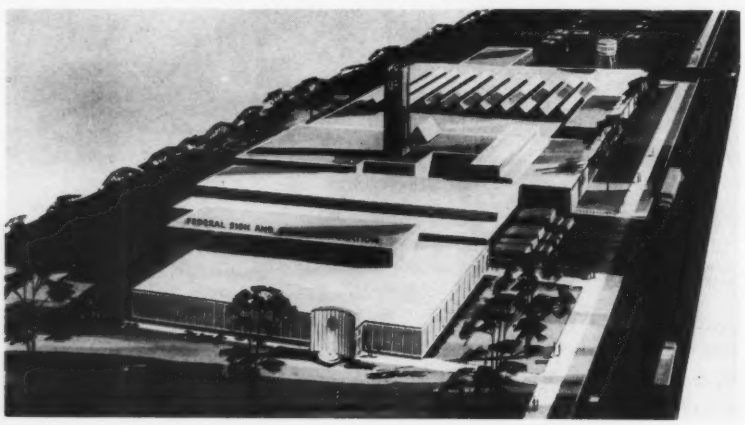
Scott Aviation Corporation of Lancaster, N. Y., has announced the sale and shipment of the 50,000th Air-Pak manufactured by the company.

Fire Fighting Featured On DuPont TV Commercial

A three-minute filmed commercial message focusing attention on the role played by firemen in a community will be shown nationwide on the DuPont "Show of the Month," Monday, November 9. The CBS program will be seen from 9:30 until 11:00 p.m. EST. The film will show historic fire fighting methods employed in the 17th, 18th and 19th centuries. Contrasted will be modern practices featuring hose employing Dacron fibers.

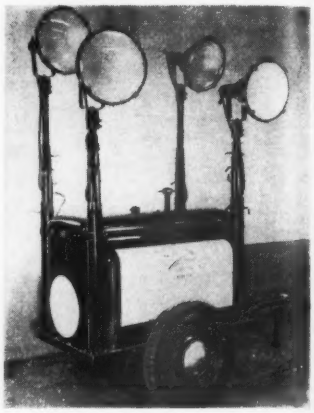
Federal Sign and Signal Moves to New Plant

Federal Sign and Signal Corporation, one of the nation's oldest and largest producers of vehicle and industrial emergency lights, sirens and horns, has moved its general offices and production operations from Chicago's South Side into a modern one-story plant at 136th Street and Western Avenue in suburban Blue Island, Ill. The 164,000-square-foot plant contains extensive facilities for the design and manufacture of audible and visual signals for industry and government.



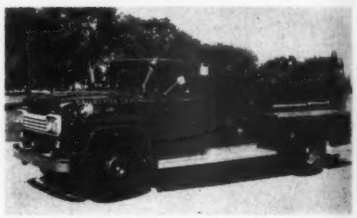
Trailer Light Plant

A new 1959 Mobilite trailerized floodlighting unit that generates its own electric power, has been announced by Pacific Mercury, 14052 Burbank Boulevard, Van Nuys, Calif.



Equipped with four floodlights, the trailer is available with 300,000 or 500,000 candlepower. Each floodlight can be adjusted up to a maximum 18-foot extension. Generator capacity up to 10,000 watts is available.

Boardman Units for Dallas



The Boardman Co., Oklahoma City, recently delivered to the Dallas, Tex., Fire Department three new booster wagons. Built on standard Ford F-750 chassis, the trucks feature 250-gpm Waterous pumps with electric primer, 750-gallon booster tanks and bypass-type foam eductors. Separate engines drive the pump and booster hose is carried on electrically operated reels.

Machine-Applied Fiber For Metal Roof Decks

Columbia Acoustics and Fireproofing Company, Stanhope, N. J., announces that a series of tests recently completed by Factory Mutual for them has resulted in the acceptance of a new system for modifying Class II metal roof deck construction economically to allow the owner the many benefits of Class I construction.

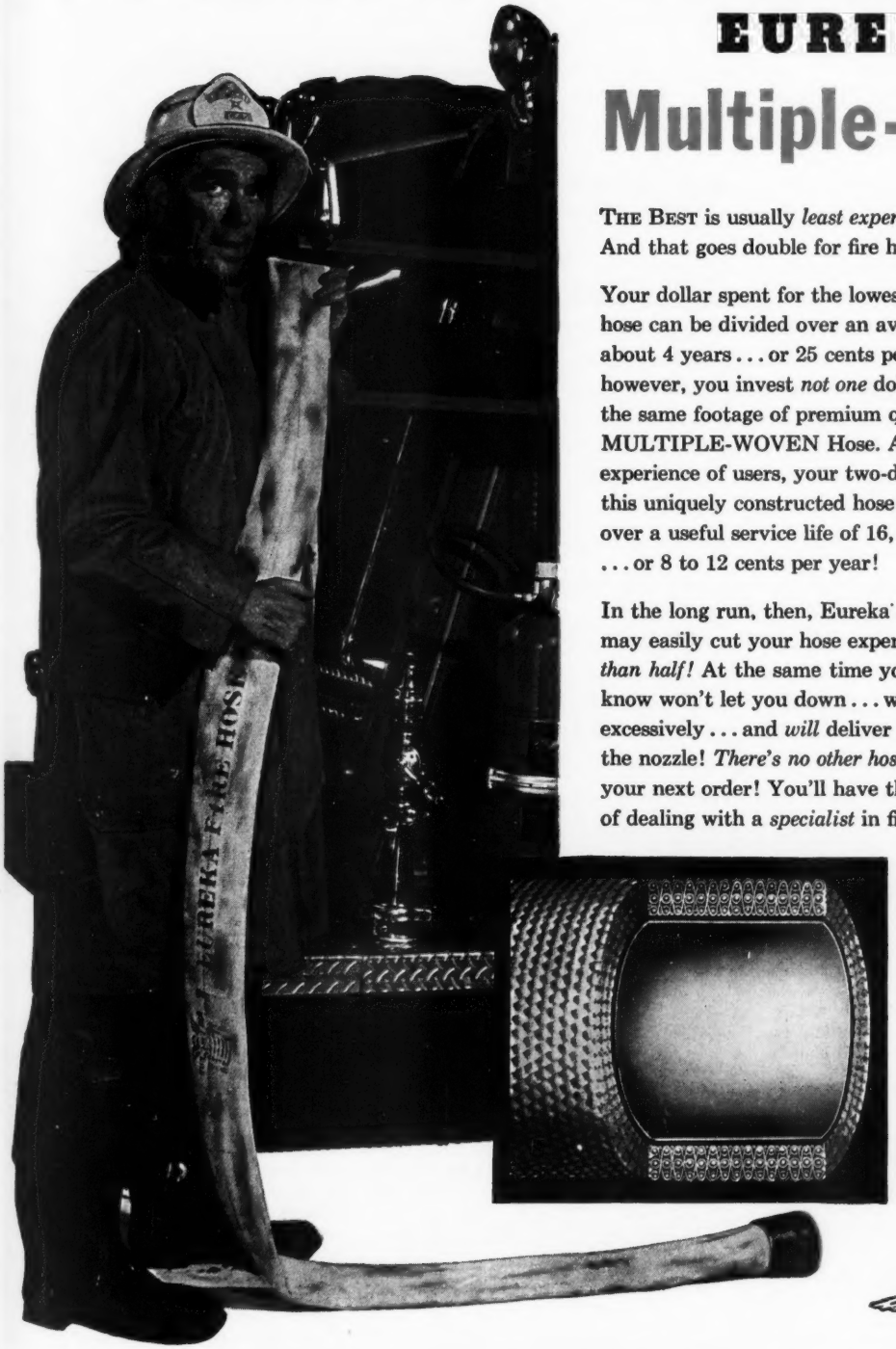
Application of Blaze Shield to the underside of Class II roof deck construction can result in a reclassification of the structure. The material is a blend of inorganic fibers and binders which is ma-

Please turn page

Let's talk DOLLARS and SENSE about

EUREKA

Multiple-Woven



THE BEST is usually *least expensive in the long run.* And that goes double for fire hose! Here's why:

Your dollar spent for the lowest-priced approved hose can be divided over an average service life of about 4 years . . . or 25 cents per year. Suppose, however, you invest *not one* dollar but *two dollars* in the same footage of premium quality Eureka MULTIPLE-WOVEN Hose. According to the experience of users, your two-dollar investment in this uniquely constructed hose may well be spread over a useful service life of 16, 20 or even 24 years . . . or 8 to 12 cents per year!

In the long run, then, Eureka MULTIPLE-WOVEN may easily cut your hose expenditures *by more than half!* At the same time you'll have a hose you know won't let you down . . . won't warp or writhe excessively . . . and *will* deliver maximum pressure to the nozzle! *There's no other hose like it.* Specify it on your next order! You'll have the added satisfaction of dealing with a *specialist* in fire hose!

All plies of Eureka Multiple-Woven Hose are woven *and interwoven* simultaneously, leaving no space between plies for collection of water, dirt or mildew.

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Cotton Rubber-Lined Fire Hose

1 Market Street • Passaic, New Jersey

Division of United States Rubber

chine or gun-applied to metallic or masonry surfaces to form a light density blanket or coating. According to the manufacturer, it also provides thermal insulation and acoustical treatment.

M-S-A New Bunker Suit

Mine Safety Appliances Company, Pittsburgh, announces a new fire fighter's suit designed of fabrics said to be 50 per cent lighter than conventional materials. The M-S-A Fireman's Bunker Suit is made of flameproofed aluminized fabric which, according to the manufacturer, reflects 90 per cent of radiant heat, and enables the fire fighter to work closer to burning areas.

New Door Opener

Sammons and Sons, 2911 Norton Avenue, Lynwood, Calif., has introduced the RamBar hand tool designed to forcibly open wooden or metal doors. The manufacturers claim it can open doors in less than 15 seconds. The tool works on the impact principle of operation. In retracted position, it is 36 inches long and extends to 52 inches. Weight is 23 pounds.

Neoprene Hose Withstands Mill's Rugged Environment

According to C. O. Bing, fire chief for Potlatch Forests, Inc., pulp and paper mill in Lewiston, Idaho, 600 feet of neoprene fire hose is still going strong in the rugged chemical environment of the plant after four years. In the area, ordinary hose lasts only three months, according to Chief Bing. The area contains lime rock, salt cake, acids and "black liquor," the caustic solution used in pulp manufacture. The ground itself is gravelly and crisscrossed by railroad tracks. Outdoor humidity turns salt cake on the hose into corrosive substances.

The hose has a 2½-inch neoprene tube, a jacket of Dacron polyester fiber, and a cemented neoprene cover. It is manufactured by Thermoid Division, H. K. Porter Company, Inc., Philadelphia. The DuPont Company manufactures neoprene and Dacron for use by industry, but does not make hose or other finished products of these materials. This hose was selected because, according to DuPont, neoprene and Dacron are eminently resistant to abrasion, weathering, chemicals, oils and grease.

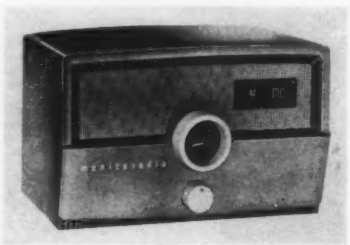
Fyr-Fyter's Bonded All-Dacron Hose

The Fyr-Fyter Company, 221 Crane Street, Dayton 1, Ohio, is marketing nationally Ambassador, a double-jacket, 600-pound test, hose designed for municipal and industrial fire department use. It is described as a superior strength, longer-wearing fire hose. Both the outer and the inner jackets are fabricated of 100 per cent Dacron polyester fiber, and are permanently "rubber bonded" together by a special process so they can't slip or rub against each other.

Ambassador hose, according to the manufacturer, is freeze-proof down to 65° below zero, and offers maximum resistance to mildew, abrasion, water and chemicals. It is claimed that, because of its low water absorbency, it is easy to handle when wet, stays flexible, racks compactly and unloads fast.

The new hose is available in 1½-inch and 2½-inch 50-foot lengths. Distribution is being handled nationwide through some 7,000 Pyrene-C-O-Two, Buffalo and Fyr-Fyter fire equipment distributors.

New Monitor Receivers



Two new 115-volt a.c.-d.c. receivers are now available from Monitoradio Division, I.D.E.A., Inc., 7900 Pendleton Pike, Indianapolis 26, Ind. Model PR-35 tunes the 30-50 mc band and Model PR-155 tunes 152-174 mc. Both are said to be ideal for fire, forestry, police and civil defense monitoring.

New Warning Bell

Notifier Corporation, 3700 North 56th Street, Lincoln 4, Neb., announces its N-CO-Bell for use with automatic fire detection and sprinkler supervisory systems. It is claimed that the new bell requires about half the current of any other U. L.-listed bell. It is described as having a correspondingly high decibel rating.

Appointments and Promotions

C. T. DuBreuil has been named vice president and chief engineer for the Fyr-Fyter Co., Dayton, Ohio. He formerly directed sales of the company's automatic

fire protection and fire alarm systems and prior to that was chief engineer of Fyr-Fyter's Wooster Brass plant. In his new capacity he will be responsible for research, development and product engineering of the entire line of fire protection equipment.

Charles R. Ham, formerly director of market reserch, American Institute of Steel Construction has been named marketing research analyst in the new marketing research and product planning department recently established by the Industrial and Marine Division, Walter Kidde & Co., Belleville, N. J.

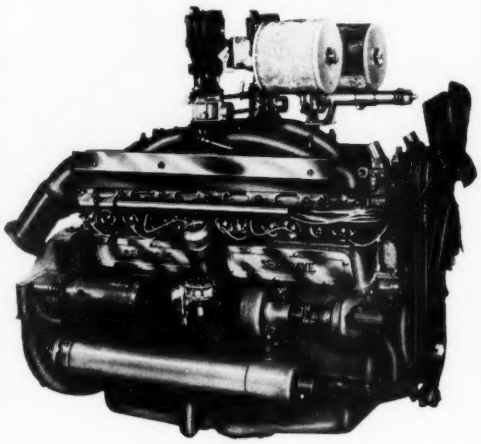
Edward F. Gaston, president of American District Telegraph Company, was honored September 18 by business associates and friends in the electric protection industry at a luncheon celebrating his completion of 50 years with ADT. Mr. Gaston joined ADT as a temporary employee in the summer of 1907 and two years later, he returned to the organization on a permanent basis.

Throughout his five decades with ADT, Mr. Gaston has played a key role in the growth of the company. He has been plant foreman, plant engineer, assistant secretary, general superintendent of plant, and vice president. On December 20, 1951, he was elected president.

Robert G. Burnside and **Benjamin L. Gidley** have joined the Republic Rubber Division, Lee Rubber and Tire Corp., Youngstown, Ohio, as field representatives responsible for the sale and service of the company's hose and other rubber products. Burnside will headquarter in Troy, N. Y., and cover parts of Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island and Vermont. Gidley will headquarter at Republic's eastern district office in Philadelphia and service Philadelphia and the surrounding areas.

E. R. Gamiel has been appointed sales manager for the Goodyear Pumps Inc., 9 Rockefeller Plaza, New York City. He will be in charge of sales, product development and of creating a national distributor network for the unique rubber-to-metal positive displacement pump.

• YES - the trend is to V-12



The largest automotive manufacturer in the world has announced a V-12 engine attesting to Seagrave's long standing V-12 confidence . . . . . You saw it at the I.A.F.C. Convention.

THE SEAGRAVE V-12

Smoothest . . . Most Powerful Most Dependable Engine available to Fire Services

Seagrave

SEAGRAVE PROVIDES GREATEST SAFETY IN CAB FORWARD CONSTRUCTION WHY? ASK US!

MAIL THIS COUPON

IN CANADA
KING-SEAGRAVE, LTD.
WOODSTOCK, ONT.

THE SEAGRAVE CORPORATION — Columbus 7, Ohio

Please send complete information on Seagrave Fire Apparatus checked below —

☐ CAB-FORWARD ☐ CONVENTIONAL ☐ AERIALS
☐ PUMPERS ☐ OTHER_____

NAME_____

TITLE_____

STREET ADDRESS_____

CITY_____ STATE_____

FE 10-59

FALSE ALARMS

Indignant Woman: "I thought this was supposed to be a respectable hotel!"

Room Clerk: "Why it is, madam, it most certainly is. Is there something wrong?"

Indignant Female: "Well, as I was waiting for the elevator I saw one of those men from the firemen's convention chasing a girl down the hall."

Room Clerk: "Did he catch her?"

Indignant Woman: "No."

Room Clerk: "Then the hotel remains respectable."

Having bolstered himself with a few stiff shots of bourbon before going to the dentist, the old-timer sank into a chair in the reception room. Beside him sat a fussy old maid.

After a moment, she looked at him scornfully and said, "Whiskey is an abomination. It nauseates me."

"Well, ma'am, I'll tell you, you may have to do what a friend of mine did—quit the stuff."

The old-timer telephoned the police to report that thieves had been at work on his car.

"They've stolen the steering wheel, the brake pedal, the accelerator, the clutch pedal and the dashboard," he complained.

A police sergeant said he would investigate. Then the phone rang again.

"Don't bother," said the same voice, this time with a hiccup. "I got into the back seat by mistake."

A fireman took his new hunting dog out for a "test run." Presently he shot a duck. The dog walked out on the water, retrieved the duck and brought it in. The fireman blinked, rubbed his eyes—and tried again, with the same result.

Completely flabbergasted, he invited a buddy to go with him the following day. True to form, when either man hit a bird the dog would walk on the water and retrieve it. The friend said nothing. Finally, unable to hold in a moment longer, the owner of the dog asked, "Did you notice anything unusual about my dog?"

His friend rubbed his chin reflectively, "Yeah," he said at length, "I did. He can't swim!"

The instructor in atomic warfare asked his class of fire fighters: "What's the difference between 'radiation' and 'contamination'?"

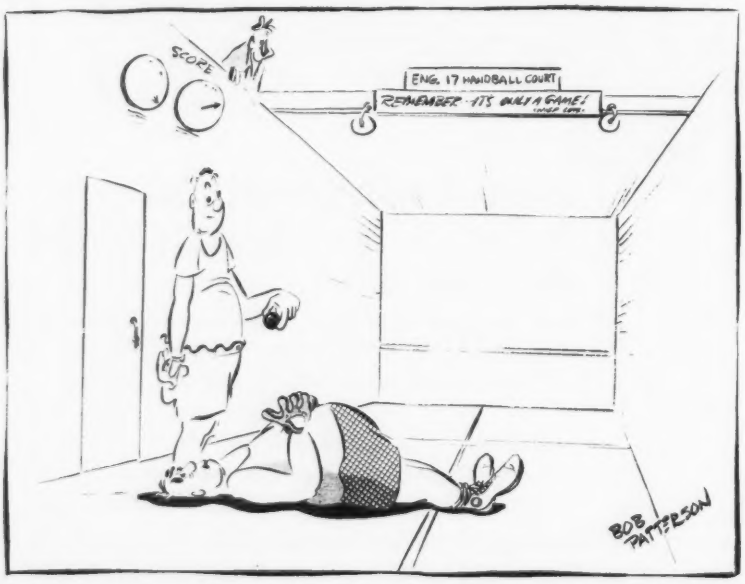
The neophyte, fresh from the farm, thought for a moment and then came up with his answer:

"Radiation," he drawled, "is when you smell manure. Contamination is when you step in it."

"Hello, Darling," a businessman said over the phone. "Would it be all right if I brought a couple of clients home for dinner tonight?"

"Certainly, dear," was the honeyed reply, "I'd love to have them."

"I'm sorry," apologized the executive after a lengthy pause. "I must have the wrong number."



"Let me rest a moment longer, Richard—I've sort of lost some of the old (heh heh) 'zip' since I made captain!"

The famous psychologist had finished his lecture and was answering questions. One meek little member of the audience asked, "Did you say that a good poker player could hold down any sort of executive job?"

"That's right. Does it raise a question in your mind?"

"Yes," came the reply, "What would a good poker player want with a job?"

Hard Rock: "It's getting so a man can't have a little snakebite remedy around the house anymore. Everytime I bring in a bottle the old lady grabs it and hides it."

Kinkchaser: "Well, my wife's the same way. But no matter where she hides my liquor I can always find it. You see, I have a fifth sense."

All day long the weary elevator operator had been patiently answering questions the department store shoppers had thrust on him. Just before closing time a voice from the rear of the car asked, "Suppose the elevator cables broke, would we go up or down?"

Unable to compose himself any longer, the operator snapped, "That, my dear lady, depends entirely on the kind of life you have led."

"For months," said the enthusiastic club woman, "I couldn't imagine where my husband spent his evenings."

"And then what happened?" breathlessly asked her friend.

"Well," she said, "one evening I went home and there he was."

Pretty Patient: "Doctor, I need help bad. It's got so every time a boy takes me out I always end up saying 'yes.' All day long thereafter I feel guilty and depressed."

Specialist: "I see. Undoubtedly you want me to strengthen your will power."

Patient: "Oh no! I want you to weaken my conscience."

Sign in front of firm that builds driveways: "Have Truck, Will Gravel."

It was the little boy's first day at school and the teacher was making out his registration card. "What is your father's name?" she asked.

"Daddy," replied the child.

"Yes, but what does your mother call him?"

"She doesn't call him anything. She likes him."

Doctor: "We can add at least 30 years to your life if you'll give up wine, women and song."

Fearless Freddie: "I'll settle for 10 years, Doc. I never could carry a tune."

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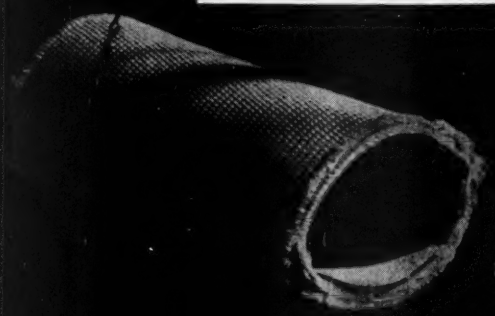

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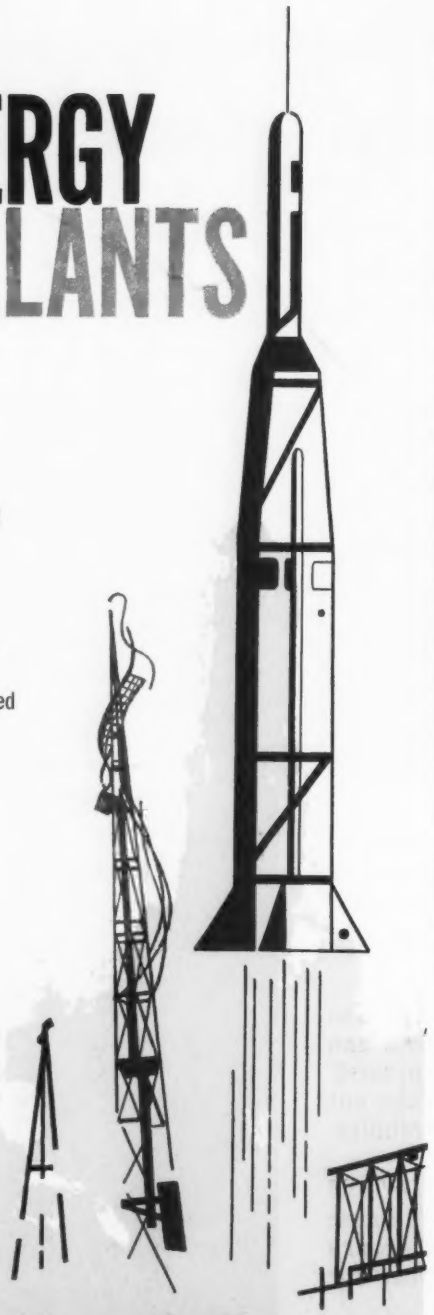

NATIONAL FOAM FIRE PROTECTION SYSTEM

Another vital field served by

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West Chester, Pa.

Persons in the News

McCabe New Milwaukee Chief

Edward McCabe, a battalion chief who has been a member of the Milwaukee Fire Department for 20 years, was named chief of the department on September 10. He joined the department June 16, 1939, and was promoted to battalion chief January 1, 1954.

New Chief at Rock Island Arsenal

Col. C. J. Williams, commanding officer of Rock Island Arsenal, named Farrell R. Jordan as new fire chief of the Arsenal September 10. Chief Jordan succeeds Chief James Conklin, who recently retired after 35 years of government service. Chief Jordan has been employed at the Arsenal for seven years, and had been in charge of fire prevention. He had previously served in the fire fighting field at the Naval Air Station, Whidbey Island, Wash.

Leo M. Fox Named Jackson Chief

Leo M. Fox, an assistant chief, was recently named chief of the Jackson, Mich., Fire Department. Chief Fox joined the department in 1925. He became a driver in 1929, and was made captain in 1938. He became assistant chief in 1945. He succeeds Chief Harold Crawford who resigned in June.

Raymond Redick New Chief of Skokie

Raymond Redick, former first assistant chief of the Chicago Fire Insurance Patrol, was recently named fire chief of Skokie, Ill. Former Chief Ed Steek will remain as assistant chief in charge of the village fire prevention program. Chief Redick has lived in Skokie for 30 years.

Ice Named Evansville Chief

Delmar Ice, formerly fire inspector, has been named fire chief of Evansville, Ind. Chief Ice was appointed to the fire department in 1942. In 1948 he was named captain, and served as acting assistant chief during vacations.

Walter Bell Appointed Chief of New Rochelle

Battalion Chief Walter R. Bell was recently appointed chief of the New Rochelle, N. Y. Fire Department. He joined the department on August 1, 1940. He was appointed a lieutenant in 1949, promoted to captain in 1950, and to battalion chief in 1952. He holds a Class A citation for heroism for rescuing several children from a tenement fire.

Kempf Joins Cook County Bureau

Fred Kempf, chief of the Chicago Fire Insurance Patrol while it was in operation, has joined the staff of the Cook County Inspection Bureau, Chicago, Ill. An authority on salvage operations, his services as an instructor in salvage procedures and forcible entry will be available on request to any fire department in the territory served by the bureau.

Chief Kempf joined the Chicago Patrol in 1922. He became a lieutenant in 1941, captain in 1947 and second assistant chief in 1956. He was promoted to chief in October 1956 and retired this year when the patrol was disbanded.

"Andy" Flanagan Named To Connecticut Post

Andrew Flanagan, retired New Haven battalion chief-drillmaster, has been named department head, firemen's training program, by the Connecticut State Board of Education, filling the vacancy created by the retirement of Chief John Pachl.

Widely known in eastern and New England fire training circles, Andy, until his recent appointment, has been with the State Office of Civil Defense.

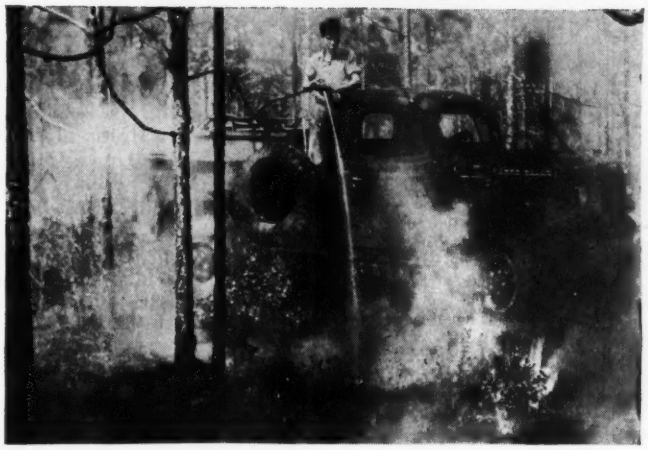
He is a past president of the Connecticut Fire Department Drillmasters Association and past president of the Connecticut Firemen's Association. At present he is treasurer of the latter organization.

E. L. Zeltner, NBFU, Retires

Edward L. Zeltner, an engineer for the National Board of Fire Underwriters, retired recently after 34 years of service with the National Board.

Mr. Zeltner served many years in municipal survey work, and in recent years handled building and fire prevention code work, and many other specialized engineering activities of the Board.

During World War II, he was assigned to Washington and served three and a half years in the U. S. Coast Guard headquarters, Port Security Division, as one of the National Board's advisory fire protection engineers.



Fight Brush Fires from Moving Truck with a HALE Type FZZ Portable Pumping Unit.

Above and at bottom are two on-the-spot pictures showing a HALE Type FZZ Portable Fire Pumping Unit fighting a brush fire from a moving truck. An FZZ can be mounted or carried on any type of equipment, making it a real "workhorse" for fighting brush, field or forest fires while in motion. Booster tank is used for a source of water.

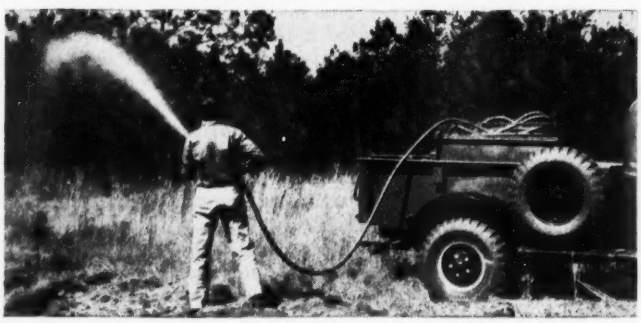
The Hale Type FZZ is a powerful, sturdy, ready-to-use unit built specifically for fire fighting. Compact, dependable and efficient, it will stand long hours of continuous pumping.

Above—FZZ Relaying through Major Pumper

FZZ Pumping Solid stream and fog—a useful combination on brush fires

Performance substantially exceeds the NBFU capacity and pressure requirements. It can supply from draft, two capable fire streams through 1½" hose lines.

NOTE: Discharge adapter can be supplied for use with 2½" hose. FZZ is available in carrying frame; mounted on large, truck-type wheels; mounted on rubber-cushioned steel channels; or with new "lock-type" fold-away handles without frame.



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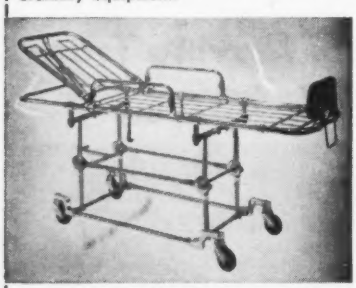

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I.A.F.C. CONFERENCE REPORT . . .

Continued from page 937

Following the Arson Committee report by Ernest D. Gross, National Board special agent from Chicago, the Communications Committee Chairman Edwin L. Heath, superintendent of communications, Minneapolis, Minn., reported for his group and introduced Joseph E. Keller, Washington, D. C., who has been retained by the I.A.F.C. to represent its interests before the Federal Communications Commission. Mr. Keller outlined how the fire service radio requirements are being presented to the FCC and briefly discussed the many problems now approaching a solution. The session closed with the report of the Nominating Committee chairman, Chief Walter Messer, Keene, N. H., who announced a contest for second vice president.

Tuesday afternoon opened with an address by B. J. Goldberg, special consultant to the Textile and Allied Industries, on "The Flammability of Textile Products." He discussed the various natural and man-made fibers and their characteristics of importance to the fire service, the Flammable Fabrics Act and testing methods for determining the burning characteristics of textiles. He recommended greater cooperation between the industry and the fire service as one method of serving the best interests of the public.

CD training possible

Governor Leo A. Hoegh, director Office of Civil and Defense Mobilization, Washington, D. C., then spoke to the assembly on "Civil Defense Planning." Governor Hoegh complimented the Association for its assistance in forming the Fire Defense Advisory Committee under the chairmanship of Secretary-Manager Townsend. He outlined what steps had been taken in the fire defense area and how coordination of the fire service is planned. The fire annex to the National Disaster Plan will contain this information. He also stated that OCDM is considering sponsorship of high-level command-type training for chief fire officers, as well as training for fire instructors in civil defense techniques, not now included in regular fire training.

The technical sessions for the day closed with Francis Hartman, supervisor of firemen's training, University of Michigan, and former chief of Lawrence, Ind., discussing "Fire Protection Problems In a Smaller Community."

Tuesday evening the Michigan fire chiefs hosted a "Cabaret Night" in the main auditorium of the Civic Center. Refreshments were served and an exceptional floor show won the acclaim of the delegates and guests.

Wednesday's session maintained the previous day's pace with Second Vice President William J. Taylor, Burbank, Calif., presiding. Henry G. Thomas, consultant, National Board of Fire Underwriters and formerly chief of Hartford, Conn., gave the conference food for thought in his talk on "What Is Expected of Today's Fire Chief." John J. Ahern, director of security, General Motors Corp., Detroit, Mich., and former head, fire protection engineering, Illinois Institute of Technology, addressed the assembly with an exceptionally well-illustrated talk on "Industrial Fire Safety Looks To The Future." He was followed by Alfred H. Rypstra, city manager of Grand Rapids, who stressed areas of municipal responsibility, administration and cooperation in his talk "The Fire Chief and The City Manager."

Membership dues increased

Following the technical session election tellers were appointed and balloting began for the office of second vice president. The question of increased dues was debated on the floor at length and the increase was then voted by the delegates.

Opening the afternoon session was an animated presentation "Gasorama" by the Michigan Consolidated Gas Co. which acquainted the chiefs with the contribution gas has made to industry and homemaking in this country.

The Committee on Nominations reported that the election tellers had determined Chief Edward Deignan elected as second vice president. The entire audience adjourned to street seats in front of the auditorium where the Grand Rapids Fire Department gave a spectacular one-half hour exhibition of many fire fighting and rescue evolutions. All persons interested then returned to the meeting hall where films were shown of the recent "Our Lady of Angels School Fire" in Chicago and the London "Battle of the Blitz" during World War II.

Wednesday evening the annual banquet started promptly at 7:00 p.m. in the Civic Auditorium. This was followed by dancing in the ballroom of the Pantlind Hotel.

Thursday morning was taken up with unfinished business, committee reports and adoption of resolutions. All officers were installed at this time and the conference adjourned. The 1960 conference will be held in Rochester, N. Y., September 12 to 15. □□

PENTAGON FIRE

Continued from page 945

lends credence to the belief that the concentration of heat in this area, resulting from the burning of the tape reels and cases, was a major factor in feeding the fire and producing the fume and smoke condition in the general area which seriously handicapped firemen fighting the fire and caused the relatively lengthy delay in getting the fire extinguished.

The following is an estimate of the damage to government-owned property: Structural damage to Pentagon, $20,000; damage to floors, walls, ceiling and utilities, $170,000; Air Force equipment, mostly tapes, $500,000. The greatest damage was to computing equipment leased by the government.

The principal structural damage to the Pentagon itself, estimated at $20,000, was confined to an area of approximately 1,600 square feet. The remaining damage was to the partitions, walls, floors and ceiling and mechanical equipment which was installed in the area to provide facilities for the operations. Except for the immediate area of the fire, the entire Pentagon was in normal operation on Monday morning, July 6th.

Mutual aid involved

Criticism voiced with respect to delays in calling in additional fire fighting equipment is considered to be unjustified. GSA, which is responsible for operating this building, maintains a fire fighting unit at the South Post of Fort Myer, within three minutes travel of the Pentagon. This unit serves the Pentagon as well as numerous other government installations. Procedures have long been established for calling in additional help from neighboring fire departments at such times as the need for aid occurs, and the established procedure was followed in this instance. The records indicate that to date, since completion of the Pentagon, this has been the only fire which has resulted in anything other than relatively minor loss. The record discloses that in the calendar year prior to the date of this fire, the GSA-operated fire equipment responded to a total of 68 calls to the Pentagon. In view of the immensity of this structure and the fact that it houses some 25,000 employees, this is considered an excellent record. □□

The editors wish to acknowledge the cooperation of General Services Administration in making available the results of its investigation into the cause of the Pentagon fire.

New Kidde carbon dioxide portables awarded highest U.L. rating!

Belleville, N. J. — A spokesman for Walter Kidde & Company announced here today that four of the company's new portable fire extinguishers have been awarded the Underwriters' Laboratories highest ratings for their respective capacities. To those interested in fire safety, this means that, pound for pound, these new Kidde units have more fire-killing power than any other carbon dioxide extinguishers on the market today.

Available in 15 and 20 pound capacities, in either squeeze valve or trigger models, these power-packed Kidde units feature new hose and discharge horn assemblies, which are responsible for their extra fire fighting ability. The new assembly is supplied also with Kidde's 10 pound carbon dioxide portable which has a U. L. rating not exceeded by any other extinguisher of its capacity. This hose-horn combination is also being offered as a replacement unit for existing 10, 15 and 20 pound carbon dioxide units, and when attached will upgrade their effectiveness equal to the new ratings.

For more information on these top-rated Kidde carbon dioxide portables write Kidde today.

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ROSEBURG EXPLOSION

Continued from page 932

Over 50 persons were treated at Roseburg's two hospitals and scores received first aid elsewhere.

The terrific force of the explosion is evidenced by the practical disintegration of structures, many of them built of heavy concrete, within a four-block area of the blast, and the weakening of others over a 28-block area. Windows were broken in a hospital a mile distant and in homes up to 2 miles away. Structural members of buildings, including the city's largest hotels and school were so weakened as to make many of them unfit for further occupancy. The shock of the blast was felt for many miles. An airline pilot reported he saw a huge ball of fire rise to nearly 2,000 feet into the sky, then fall back toward the city. Power and telephone lines draped from poles onto streets and sidewalks. Gas lines for as far as six blocks cracked and ruptured, their leaking fumes adding to the problem of fire control. Over four blocks from the point of explosion a 100-pound truck axle, bent out of shape, lay in front of a bus station. This was one of the few identifiable parts of the powder company's transport recovered.

Police Officer Donald De Sues, one of the first on the scene, was killed by the blast as he was directing traffic not far from the powder truck. A former volunteer fireman who lost his life was William Unrath, co-owner of the Coca-Cola Bottling Co. whose plant was about 75 yards from the Gerretsen property. He and another man, also killed, hurried into the bottling building to play water from the roof shortly before the explosion occurred. Unrath's wife and daughter, together with two girl visitors, were badly injured before the building was fully burned.

The explosion, triggered by the fire, in turn gave the fire added impetus by blowing out doors and windows, leveling walls and skyrocketing burning brands over a wide area. Trees which were ignited by the latter on the grounds of a hospital half a mile away, were extinguished by hospital attendants. Many citizens aided fire fighters in extinguishing minor fires ignited by sparks.

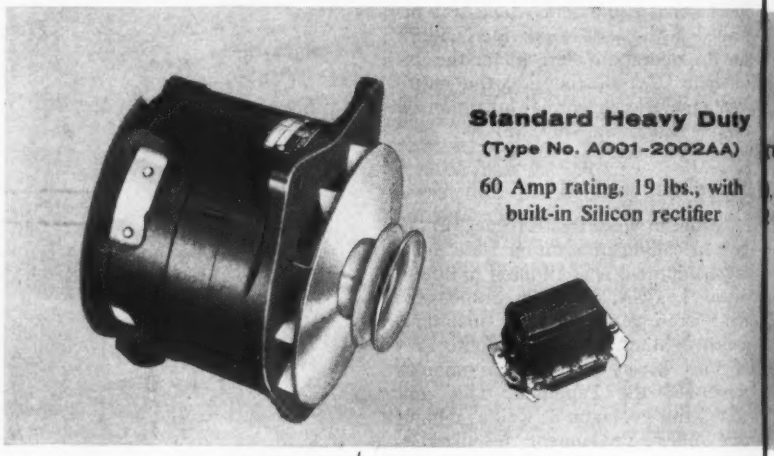
Despite the confusion and near-chaos that attended the explosion and spreading fire, there was no panic. Federal, state, county and local disaster and relief agencies, including the Salvation Army, the Red Cross, private organizations and airlines were quickly on the ground. Within an hour over 100 persons were lined up at hospitals to give whole blood. All local police were called out under Chief Vernon Murdock to control traffic and keep the curious behind the police lines. They were aided by 50 county sheriffs and other law officers and, shortly after, by three companies of National Guard. A security clamp was quickly placed on most of the business section. With most local communications temporarily knocked out, local radio "hams" did yeoman service.

Prompt mutual aid

In addition to the 30 men and four pieces of apparatus from Roseburg, the mutual aid response resulted in the assembly of 24 men and three engines from Roseburg Rural Fire Protection District; two men and one engine from Sutherlin; eight men and a disaster truck from Winston-Dillard Rural Fire Protection District and one fireman from Cottage Grove. These forces were actively used on the fire lines under command of Lieutenant Starmer.

Mutual aid equipment and manpower used for stand-by service at Roseburg and Roseburg Rural Fire Protection District consisted of five men and one engine from Myrtle Creek; two men and one engine from the U. S. Veterans' Administration

NEW LEECE-NEVILLE FEATURE BUILT-IN



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Silicon cell rectifiers; now *built-in* as an integral part of the alternator, have eliminated the separately mounted Selenium rectifier in new L-N Alternator-Generator Systems. The resulting benefits to you are as follows:

Better Performance—curb idle current increased 42%, current at city and highway speeds increased 20%, greater heat resistance, and longer life (Std. H.D.).

Lower Maintenance Costs—expense of mounting separate Selenium rectifiers is eliminated. Silicon cells (6 to a rectifier) can be replaced individually at far less cost than a complete Selenium rectifier.

Space Savings—new 2-piece systems require less space under the hood. Cost is comparable to previous 3-piece systems. Low-cost kits for converting your present 3-piece systems to new 2-piece systems also available.

You can specify Leece-Neville systems as factory-installed special equipment on more than

90% of all new vehicles

Facility; two chief officers, eight men and two engines from Eugene, and four men and one engine from Springfield.

Eugene and Springfield forces, although not in the Douglas County Mutual Aid organization, responded at the request of the Roseburg dispatcher and on consent of the state fire marshal. Later in the morning of the 7th and strictly on a voluntary basis, the chief and seven firemen from the Coos Bay Fire Department, and a captain and four firemen from North Bend, aided as relief companies on the fire lines.

At this writing, property losses have not been fully assayed. The Red Cross listed damages to 350 buildings. Some 35 business and commercial structures were complete wrecks. Twelve dwellings were destroyed and many others badly damaged. Complete destruction occurred in an area of about four blocks; partial destruction was spread over 28 city blocks. Until the effects of the shock have been analyzed by the small army of inspectors, builders and contractors brought in to check on damage, and rebuilding and repair costs have been added up, the total property damage can only be estimated. Present figures vary from $2 million to $12 million, with most authorities placing the losses at about $10 million. Included in the total are one almost new $26,000 pumper and two police radio cruisers destroyed and one 500-gpm pumper damaged. Roseburg was loaned two Oregon Military District vehicles for use by police, and the Veterans' Administration has made available a pumper until a new engine is delivered.

Investigations begin

Almost before the ruins had cooled, the usual post-disaster investigations into cause and effect got under way. Federal, state, local and independent agencies sought to determine just who was to blame for the disaster and what laws, if any, had been violated. Early on the scene were V. Dean Musser, Oregon state fire marshal, and his deputies. Examiners from the Interstate Commerce Commission held hearings from September 1 through 3. The I.C.C. has regulations against parking trucks with cargoes of explosives in congested areas and leaving them unattended.

The driver of the transport was questioned at length. He stated that when he heard fire sirens, while in his room at the Umpqua Hotel, he started for the fire to move his truck. He was about a block away when the blast knocked him to the street, causing facial and other injuries for which he was later hospitalized.

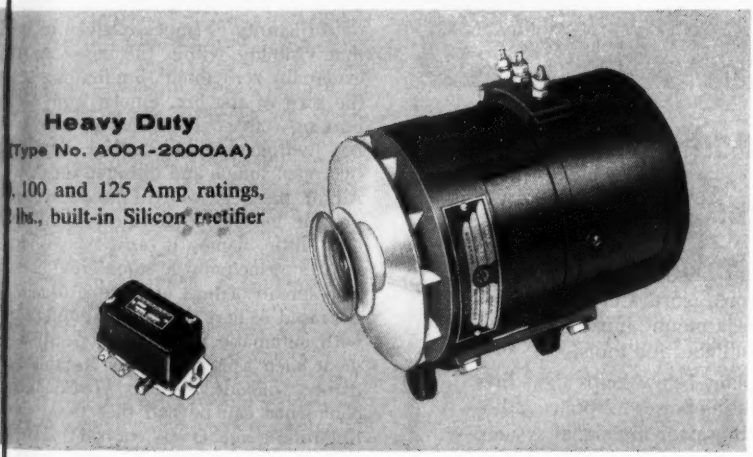
Grand jury investigation

Within a week after the tragedy, the Douglas County Grand Jury convened to attempt to determine whether or not any state criminal laws were violated. District Attorney Avery Thompson said a section of the State Industrial Accident Commission's safety code for construction work figured in the inquiry. This covers transportation of explosives and forbids trucks carrying explosives to be "parked in congested areas." It also provides: "Stops for meals should be made at wayside restaurants, and the motor truck or vehicle parked well away from traffic, fire risk and other parked vehicles." The powder company's driver said that he had attempted to park his transport and put up for the night at some motel outside the city but found them all occupied.

On September 8 the Pacific Powder Co. was charged with involuntary manslaughter in the disastrous blast. The county grand jury charged the powder firm specifically with "action without due caution resulting in the death of Harry Carmichael," one of the 13 victims.

Such criminal indictments against

LTERNATOR-GENERATORS
ILICON RECTIFIERS



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End electrical failures, cut costs! Send for details now.

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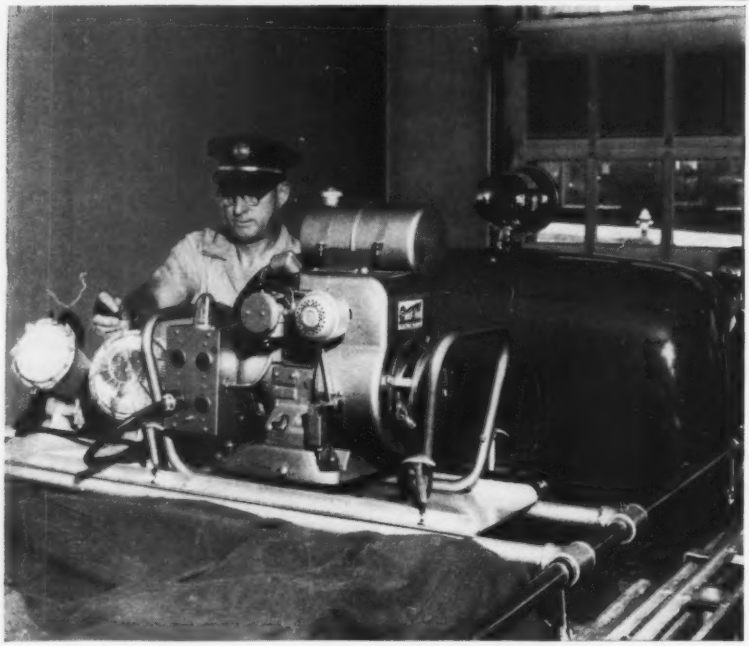
Onan NEWS REPORT



Department uses two Onan plants to fight fires, and hurricanes, too!

The 1,500-watt portable Onan plant mounted on the rig above is strictly a fire-fighting tool for the Oxford, North Carolina department. Quickly detachable from the truck mount, it can be carried right up to the fire site to operate floodlights and tools.

The Onan 10,000-watt standby plant below helps fight fires and other disasters. In addition to assuring power for police radio, headquarters lighting, and the air-compressor fire signal system, it also serves the local Civil Defense organization, guaranteeing radio communications when a hurricane or other disaster strikes the community.

10KW PLANT HANDLES ALL ESSENTIAL NEEDS

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corporations are unusual in Oregon but are provided for under state law. The maximum penalty upon conviction for a corporation charged with involuntary manslaughter is a $5,000 fine, according to District Attorney Thompson. □□

The author acknowledges the generous assistance of Oregon State Fire Marshal V. Dean Musser; Deputy Marshal Eldon Winkley; Chief Hal Simpson, Portland Fire Department; the Roseburg News-Review; the Portland Oregonian; and the members of the Roseburg Fire Department in the preparation of this report.

FUR STORAGE VAULTS

Continued from page 943

ments against overhead ceiling lights. The breakdown of electric motors, smoking, spontaneous ignition and torches are also major causes of fires in fur vaults.

From past fires and various tests run at Underwriters' Laboratories, the development and progress of a fire in a fur vault is well known. A tremendous quantity of smoke is given off so that visibility within the structure is essentially zero about 15 minutes after the start of the fire. Smoke from the burning furs contains carbon monoxide, hydrogen cyanide, sulfur dioxide, hydrogen sulfide and nitrogen dioxide. All of these gases will probably be present in toxic quantities. There is very little flame, if any, since fur creates principally a smoldering fire. The spread of heat and fire is usually not rapid. Where the vault is equipped with automatic fire protection equipment such as sprinklers or automatic carbon dioxide systems, reasonable confidence can be had that these extinguishing agents will control the fire.

Pre-fire inspections and familiarity with the premises are extremely valuable. It is not a simple matter to open a bank vault door, and the owner, or other person who knows the combination to this door should be contacted. The outside of the vault should be checked to determine if there are any vents or openings that may be opened to assist in removing smoke. Due to this extremely toxic smoke, it is essential that no one be allowed to enter the vault without a self-contained mask and adequate lights. Since visibility is usually so poor that it may be impossible to locate the source of the fire, smoke ejectors or blowers should be set up to remove the smoke. If there are vents in the walls or ceilings opposite the door, blowers can be set up to force the smoke out through the vents and, in some cases, the fans in the vault can be used to assist removal.

At the same time, entry can be made into the vault with a charged line to determine the source and extent of the blaze. Since the fire is usually not of a rapidly spreading nature, time can be spent in clearing the air and improving visibility, with entry being made at frequent intervals until the source of the fire is found. Water spray, or a small stream, directed into the actual fire area will probably extinguish a fire even though some furs will have to be removed to make sure that burning embers are not present.

Another method of fighting the fire, depending upon the equipment available, is to use carbon dioxide to flood the vault. Carbon dioxide is effective in concentrations up to 6 cubic feet per pound of gas in restricting the spread of fire and clearing smoke from the vault. The cubic content of the vault must be calculated to determine if the quantity of carbon dioxide available is sufficient to give this concentration. Where carbon dioxide is injected, whether from a fixed system or from fire department equipment, it should be allowed to soak in for 30 minutes in order to have time for complete extinguishment.

There are exceptions to the above that will present more complicated problems in the event of fire. There are vaults in various sections of the country, up to 100,000 cubic feet in size, which have no automatic fire protection or detection equipment. The value of furs in such a vault will approximate $10 million. In this case, efficient fire fighting is of prime importance. Due to its size, the problem of ventilation would be extremely difficult and the danger to personnel entering, because of poor visibility, is great. The best procedure would be to inject fresh air into one section at a time to try to locate the source of the fire, instead of trying to clear the entire vault of smoke.

There are also fur storage vaults that are vaults in name only, in that they are of concrete block or tile and may even have wooden roofs. In such a vault, the problem of involvement of the combustible roof structure is present. Great care must be taken that sufficient heat is not generated by the burning furs to create a roof fire and such an occurrence should be anticipated while ventilating.

The fighting of a fire in a fur storage vault presents an interesting problem in that there may be many solutions to the proper method of extinguishment. Knowledge of the arrangement of the vault, construction, method of access and ventilation will be of great assistance in solving the problem, as well as helping to minimize damage. □□

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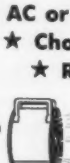

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Among the Buffs

By Paul C. Ditzel

MINNEAPOLIS BUFF Dick Heath has returned from his fact-finding tour of the East where he researched historical information for his Ph.D. thesis on the early American fire service as reported in an earlier column.

"I am now in the midst of writing," reports Dick, "and I intend to complete the thesis for presentation this fall. Next thing will be to get it published. This is the goal of all theses, of course, but I think I've got a head start, or at least a good talking point, in the interest which buffs have shown in it so far."

Dick, who lives at 145 Malcolm Avenue, S. E. Minneapolis 14, Minn. says his work was made easier by such clubs as the Third Alarmers in New York, the Second Alarmers in Philadelphia, and the Friendship Fire Association in Washington.

"Chief Clarence Meek and the New York Fire College were equally hospitable and helpful," says Dick. "The Fire College has an unmatched collection of material in the post-1865 period, and I think Chief Meek has as much more in his head.

"I returned to Minneapolis loaded with notes, pictures, etc., and very pleasant memories of all the eastern buffs. I got home in time to run into one of the roughest months this city has had in years: Four 4-4's, three 3-3's, and two 2-2's within three weeks.

"It was almost as bad in our neighboring city of St. Paul in June, when a pyro got loose and torched off four special alarm fires in as many nights. The culprit—or rather culprits—turned out to be a young couple, just married, who, as one St. Paul arson investigator said, had the most expensive honeymoon in history."

Dick reports that the heavy action meant lots of lost sleep for fellow Box 35 Associates members in the Twin Cities. "The club is gaining in membership and enthusiasm rapidly, after a number of years of irregular meetings and only informal activity. Although the club's purpose is largely social (coffee service here is handled by the Boy Scouts) we feel it does valuable service in public relations and in the many little ways in which the members can be of assistance at small fires and large.

"Within the past few months the fire department's files of photographs have been enriched by both color and black-and-white shots of recent fires. The photos have all been taken by Box 35 members."

Buff Heath says the Twin Cities club is somewhat unique among fire fan organizations in its choice of a number. "To the best of my knowledge," he says, "there has never been a really large fire at Box 35 in Minneapolis. When the club was organized in 1935 the founders discovered that the largest fire in the city's history had been struck on several boxes, so to save argument they picked digits

to correspond with the year of its founding."

Present officers of the club are Bill Rowe, chief; Tom Edmunds, deputy; Charles Vandervort, captain-secretary, and Buff Heath, captain-treasurer. Meetings are held the second Tuesday of every month. Visiting buffs are welcome.

To the south, members of the Chicago Fire Fans Association presented Captain William Benton of the Salvation Army with a check for $200. The money will go toward the upkeep of the two mobile canteens operated by "Sally" in Chicago. Captain Benton, in accepting the check, took occasion to tell how much dry gloves mean to Chicago fire fighters. The CFFA keeps both canteen trucks supplied with a stock of clean, dry gloves which any working fireman can draw upon simply by turning in a pair of wet, dirty, or frozen gloves.

Down Baltimore way, the SHC Association, Inc., honored the city's new fire chief, John J. Killen, at a social meeting. Among the guests attending were R. S. Boone, Jr., of the Pompier Club, Baltimore, and E. A. Burchard of Brooklyn's 255 Club. Jubilee songs were sung at the party by Captain Francis X. Walsh and SHC's crooner, Ernest F. Wilson.

Commissioner James N. Smith of SHC also reports that Miss Thelma R. Williams, the only woman in that buff organization, was appointed regular lieutenant when Walter T. Turner, the club's former lieutenant, was put on the inactive list. Thelma just completed five weeks of the first aid course at the fire department's school of instruction and was the only woman attending the classes.

Commissioner Smith also reports that two more SHC members are joining the regular fire department as their civil defense auxiliary fire fighting training ends. They are Howard C. Walker and Ernest F. Wilson. Walker will be assigned to Truck Co. 10 and Wilson to Engine Co. 8.

That's about "30" for another month. Hope you club secretaries will remember to send your reports to this column and that you "lone-wolf" buffs continue to send along your anecdotal material. The address is the same: Box 8731, Crenshaw Station, Los Angeles 8, Calif. □□

August Fire Losses

Estimated fire losses in the United States during August amounted to $74,660,000, the National Board of Fire Underwriters has reported.

According to Lewis A. Vincent, NBFU's general manager, this $74,660,000 loss represents a decrease of 1.1 per cent under losses of $75,491,000 reported for August 1958, and a decrease of 9.3 per cent under losses of $82,334,000 for July 1959.

Losses for the first eight months of 1959 now total $717,860,000, a decrease of 2.7 per cent from the first eight months of 1958, when they amounted to $737,508,000.

These estimated losses include an allowance for uninsured and unreported losses.

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the round table

discussion of current fire department and fire management problems

Alerting and Dispatching Fire Companies

THIS IS THE FINAL installment of the Round Table on systems for alerting and dispatching fire companies.

Next month's question will be devoted to fire prevention inspection programs.

Readers are invited to submit comments on next month's subject, as well as on the current one. Address replies to Round Table Editor, FIRE ENGINEERING, 305 East 45th Street, New York 17, N. Y.

The Discussion

E. P. Feaster, Chief, Lincoln, Neb.: The method used in our department to notify personnel of an alarm is bells or gongs. The gongs are toned down so that they do not make too loud a noise.

We prefer this type of notification as it has worked very successfully in our department over a period of a good many years.

I do not believe the speed in response is hampered in any way by alerting personnel in this method.

There is no evidence in our department that show any relationship between this warning device and the incidence of heart conditions.

If we were to revamp our present alerting system under the present existing conditions, I would see no reason to change our present alerting system.

Raymond J. Daley, Chief Fire Marshal, Chicago, Ill.: We are using a fairly loud bell at the present time for alerting personnel, as we find it necessary to use something loud enough to overcome the noise of heavy traffic such as trucks, passenger cars, bus transportation, etc., especially in the summer time. In our opinion, the bell is more suitable than a horn.

We do not believe the speed of response is affected to any great extent by the type of alarm used, except where a great deal of noise is involved.

We have no evidence that sharp warning devices affect heart conditions in any way.

We do not plan any changes in our present alerting system, since we find the one we are now using quite satisfactory.

Alfred F. Nichols, Chief, Hot Springs, Ark.: In our department, bells and telephones are used.

We favor the use of bells in preference to chimes, gongs or horns.

We believe the speed of response is affected by the type of alarm device used.

There is evidence in our department to show a relationship between sudden, sharp warning devices and the incidence of heart conditions since several older men have been affected by heart ailments.

If we were to revamp our present system, we woud have a watchman on the phone to catch all calls and sound bells when company is needed.

W. J. Lewis, Chief, Norfolk, Va.: We use bells to notify personnel in quarters of an alarm.

There is no evidence in our department to show the relationship between warning devices and the incidence of heart conditions.

Our present system has and is proving very efficient. When the man on watch duty receives an alarm, he pushes a button which rings a bell and automatically all lights come on. He then announces over the public address system the location of the alarm.

John R. Butz, Chief, Allentown, Pa.: Bells are used to notify personnel in quarters. Upon receipt of an alarm, the alarm operator immediately sends out one warning tap to all fire stations. This gives all firemen a chance to get ready and have trucks in operation. This is followed by box alarm rolling in on the tape sys-

THIS MONTH'S QUESTIONS

What method is used to notify personnel in quarters of an alarm?

Do you favor the use of bells in preference to chimes, gongs, or horns?

Do you believe the speed of response is affected by the type of alarm device used for alerting firemen?

Is there any evidence available in your department to show a relationship between sudden, sharp warning devices and the incidence of heart conditions? If so, will you briefly outline the nature of this?

If you were to revamp your present alerting system, what changes in equipment and procedures would you make?

NEXT MONTH'S QUESTIONS

What person in your department has direct responsibility for fire prevention programs?

Does this person have direct supervision of inspection personnel at all times? If not, state manner of supervision.

Are inspections carried out solely by the fire prevention bureau or comparable office? If not, how are they conducted?

Are all inspectors uniformed men? If not, briefly state type of personnel filling positions.

tem, which is all done in a matter of seconds.

We favor the use of bells in preference to chimes, gongs or horns.

We believe the speed of response is affected by the type of alarm device used for alerting personnel.

There is no evidence available in our department to show a relationship between sudden, sharp warning devices and the incidence of heart conditions.

Edward Smith, Superintendent, Fire Communications, Grand Rapids, Mich.: We have a two-way vocal alarm system to all fire stations, including the chief's offices. Upon the receipt of an alarm of fire at our fire dispatch office, the push buttons corresponding to the fire stations involved are depressed on the vocal alarm section of our telephone emergency reporting switchboard. This opens the loudspeakers in those stations. A tone alert signal is given by depressing the red tone alert push button. This also turns on the station lights. The location of the alarm is acknowledged by the first fire company involved on the assignment; the rest of the companies involved merely acknowledge with an "O.K." Each station is able to hear the other stations acknowledge. Flashing lights on the switchboard also indicate the station personnel have acknowledged the call.

Our experience has been that a 1,000-cycle tone is the most effective.

We believe the speed of response is affected to a very slight degree by the type of alarm device used.

The subject of heart conditions being brought about by sharp warning devices, is a controversial one and at the present, we have no evidence available.

J. H. Martin, Assistant Chief, Lawton, Okla.: We use the bell system of alerting our personnel. It is hooked directly to the telephone system and it is shut off by the watchman by means of a relay switch.

Bells, chimes, horns, or gongs seem to

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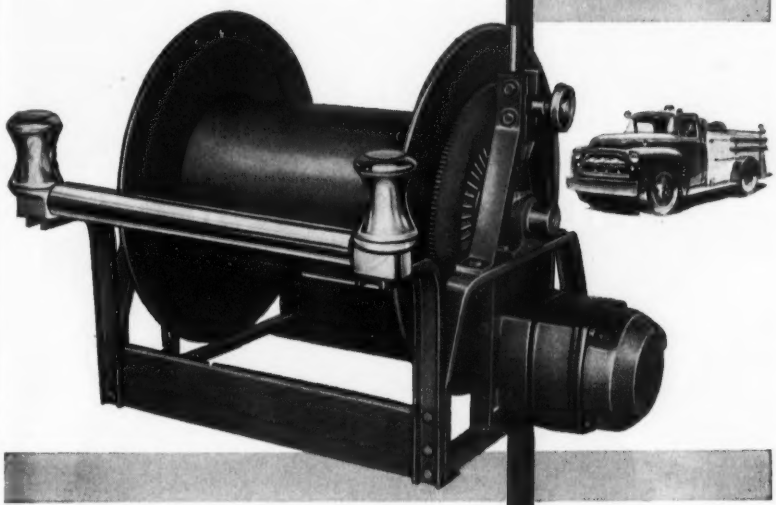

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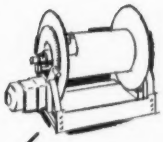

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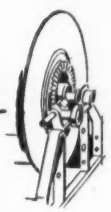

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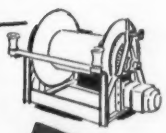

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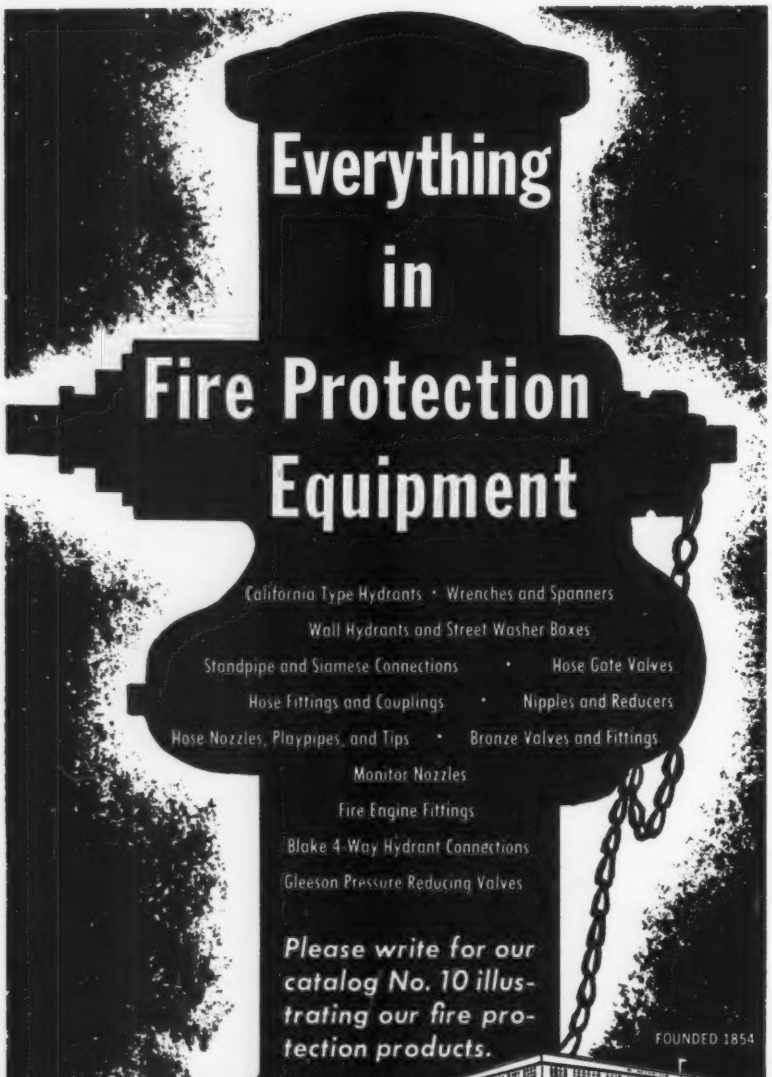
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me have the same sort of effect. They are harsh, loud, and sudden. Therefore, they have a tendency to put the men's nerves on edge immediately. In firemen's language, "they knock you out of bed."

I believe the type of alarm system affects the speed of response of the personnel, but it is my belief that most of the systems have a tendency to alert them in the wrong way. You don't want the men in a run-away mood. Of course, you want your men to move to an alarm with all possible speed, but you want it done in a cool, calm, collected, and safe manner.

We don't have any evidence in our department that harsh alarms have directly shown up in a heart incidence, but I am sure that it has added its share. In a high-tension job such as this, it would be impossible not to have a high percentage of heart incidences, and there are so many things that add to the cause.

The alarm system that I prefer is the tone signal given out over the public address system by fire department radio. It seems to have the desired effect of alerting the men, but does not put them too much on edge.

O. E. Boggess, Chief, Charleston, W. Va.: We use gongs to notify personnel.

I do not believe the speed of response is affected by the type of alarm device used, if it is audible.

There is no evidence in our department to show a relationship between sudden, sharp warning devices and the incidence of heart conditions.

We revamped our system in 1949 from telephone bells to small gongs, 8-inches in diameter.

Regardless of the type of alarm device used, tension and anxiety are caused. The atmosphere in the fire house is charged with a feeling of expected action.

C. L. Cox, Chief, Durham, N. C.: In our department, the sounding of an alarm is done by gong or gongs, depending upon the number of floors and the size of the building.

I favor the use of bells or gongs over other types.

I believe that a speedier response is affected by the sound of a bell or gong.

We do not have any proof that sharp warning devices have had any effect on the heart.

Within the past few years, we have built several new fire stations. An adequate number of bells have been installed in each. Another new one is now under construction and will have the same type bells.

J. J. Martin, Chief, Clarksburg, W. Va.: In our department, we use the telephone for alerting purposes.

We favor the use of bells over chimes, gongs or horns.

We believe the speed of response is affected by the type of alarm device used.

In our department, there is no evidence available which would indicate a relationship between sudden, sharp warning devices and the incidence of heart conditions.

If changes were made, I would have one man to be used as a switchboard operator, and he alone would receive all calls and relay them to stations.

C. A. Crosier, Chief, Battle Creek, Mich.: We use gongs and bells in our department.

We do not favor the use of bells in preference to chimes, gongs or horns.

We do not believe the speed of response is affected by the type of alarm device used.

There is no evidence in our department to show a relationship between sudden, sharp warning devices and the incidence of heart conditions.

If changes in our present alerting system were contemplated, we would continue to use gongs and bells.

Thomas Egan, Chief, Arlington, Mass.: Our department uses audible signal from electrical gongs.

We favor the use of bells over other methods.

We believe the speed of response is affected by the type of alarm device used for alerting personnel.

In our department, we have no evidence available to show a relationship between sharp warning devices and the incidence of heart conditions. □□

Fire-Retarded Wood

According to statistics compiled by the Forest Service, U. S. Department of Agriculture, in cooperation with the American Wood-Preservers' Association, 8.9 million board feet of wood material was given fire-retardant treatment in 1958. Of this total, 47 per cent was in the Atlantic Coast region and 38 per cent on the Pacific Coast.

The figures include 5.7 million board feet of lumber given fire-retardant-preservative treatment, 1.8 million board feet given combined fire-retardant treatment and 921 thousand square feet of plywood given fire-retardant treatment.

OCDM Revises Radio Equipment Regulations

The Office of Civil and Defense Mobilization has announced that effective September 2, 1959, no project application for the procurement, leasing or maintenance of civil defense radio equipment will be approved unless emergency power generators are provided for each base and repeater station location used by and licensed in the service for which "matching funds" are requested. Where the control or dispatching console is separate from the base station, the control position must have the same emergency capabilities. In addition, if the applicant operates only mobile units, and takes primary service from a base station operated by another political subdivision, that base station must meet the same requirements. A complete list of the OCDM regulations can be found in Part 9.2d, OCDM Contributions Manual, M25-1, Revised.

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What's Burning

THE FOLLOWING LIST includes fires of $10,000 and over in the United States and Canada for the period from August 19th to September 22nd.

Fairbanks, Alaska—Lavery Building, housing six business firms, destroyed.
North Little Rock, Ark.—Lincoln Elementary School badly damaged. Lightning.
Concord, Calif.—Administrative building and Naval ammunition depot damaged.
Dorris, Calif.—Gravier Hay Farm destroyed. Blower spark.
Half Moon Bay, Calif.—Half Moon Bay Feed & Fuel Store destroyed, Faulty wiring.
Larkspur, Calif.—Apartment building, supermarket, florist and barber shops, damaged. Children with candles.
Napa, Calif.—Napa Milling & Warehouse Co. damaged. Careless smoking.
Rio Vista, Calif.—River News Camera Shop and *River News Herald* newspaper damaged. Possible arson.
Sacramento, Calif.—Capitol City Van & Storage warehouse and printing firm warehouse damaged.
San Francisco, Calif.—Kahn & Keville Tire Co. warehouse damaged.
San Francisco, Calif.—Pam Pam Grill damaged. Grease in flue.
San Francisco, Calif.—Five buildings at 16th and Castro Streets damaged.
San Jose, Calif.—Berryman Automotive Products Co. destroyed.
West Los Angeles, Calif.—20th Century-Fox Studios damaged.
Cromwell, Conn.—Holy Apostles Monastery considerably damaged.
Hebron, Conn.—Eight connected buildings, including two empty granaries of United Distillers Products Co. destroyed.
New Milford, Conn.—Dwelling of radio announcer Westbrook Van Voorhees destroyed.
Willimantic, Conn.—Camp Gallivan, owned by St. Joseph's Church, considerably damaged.
Felton, Del.—Ducat Poultry Co. warehouse, adjacent dwelling of George Green and building owned by Mrs. Eve Hempele, destroyed.
Miami Beach, Fla.—Latin Quarter nightclub destroyed.
Williston, Fla.—Williston Department Store destroyed; adjacent Weinmiller Hardware Co. and nearby loan firm damaged.
Atlanta, Ga.—Campbell Materials' Ready Mixed Concrete plant damaged. Gas tanker-truck exploded.
Dalton, Ga.—Building housing Sterchi Bros. Inc. and Sterchi Jewelry Co. destroyed.
Reubens, Idaho—Dickinson Warehouse Co. damaged.
Chicago, Ill.—Watson Bros. Transportation Co., Inc. dock facilities destroyed.
Ottawa, Ill.—First Baptist Church, Illinois Laundry and nearby garage damaged.
Huntington, Ind.—Fisher Engineering, Inc. factory destroyed.
Davenport, Iowa—Bituminous Material & Supply Co. asphalt storage tank destroyed. Explosion.
Augusta, Kans.—Socony-Mobile tank farm damaged. Lightning.
Scottsville, Ky.—Hog and pig barn of Noble Eldon Stovell, housing 225 animals, destroyed.
Shreveport, La.—Sears & Roebuck Farm Store and American Furniture Co. heavily damaged.
Abington, Mass.—Barn of Ware Bros. Dairy destroyed; Ware dwelling damaged.
Malden, Mass.—Malden Army & Navy surplus store, Sears-Roebuck Store, Kappy's Liquor Mart and Centre Grill, damaged.
North Reading, Mass.—Ross Shoe Co. damaged.
Salisbury, Mass.—The Barn, resort nightclub, destroyed; attached cocktail lounge, real estate office, diner, barbecue stand and bar, damaged.
Somerville, Mass.—Abandoned Adams Coal Co. and unoccupied building destroyed; adjacent A. A. Plating, Inc. and several dwellings damaged.
Southboro, Mass.—Home of Louis Bentonorzzi and adjacent School Street Motors destroyed.
West Newton, Mass.—Freeman-Carder Corp. woodworking plant damaged.
Benton Harbor, Mich.—Fruit package plant of Morton Litowich and adjacent Midwest Transit Lines damaged.
Deckerville, Mich.—Clements Mfg. Co. spray paint division destroyed.
Flint, Mich.—Kresge building destroyed. Loss included 16 professional offices, lamp and coil shop, four loan company offices, corsetry, hearing service, lodge and accounting offices, jewelry shop and large Kresge variety store.
Ganges, Mich.—"Streamland," Lake Michigan mansion, destroyed. Lightning bolt.
Saugatuck, Mich.—Mt. Baldhead resort-hotel destroyed.
Swartz Creek, Mich.—Town Tavern and adjacent building used for offices destroyed.
Kansas City, Mo.—William's Supermarket destroyed, Arson suspected.
St. Louis, Mo.—Warehouse owned by Hammond Sheet Metal Co. damaged.
Kalispell, Mont.—Conrad Building and three adjoining firms destroyed.
Allamuchy, N. J.—Unoccupied mansion along "millionaires row" destroyed.
Bedminster, N. J.—Dwelling of Malcolm S. Forbes damaged.
Camden, N. J.—Ruttenberg's Hardware, adjoining Lynch's Cleaning and Dyeing and apartment dwelling damaged. Explosions.
Jersey City, N. J.—Eight chemical warehouses of Wheeling Transportation Co. destroyed.
Newark, N. J.—Astor Abattoir Inc. building damaged.
Toms River, N. J.—Ocean County jail considerably damaged.
Batavia, N. Y.—Barn on former Haxton Foods of Oakfield dairy farm, destroyed; five other buildings damaged.
Centerport, L. I., N. Y.—Linck's Log Cabin Restaurant destroyed.
Cortland, N. Y.—Building used as student dormitory by New York State Teachers College, destroyed.

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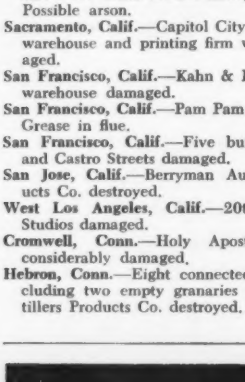

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- ¾ Length Seats
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DISTRIBUTORS IN PRINCIPAL CITIES

Also a complete line of compact and versatile Fire, Fire-Crash, Rescue and Emergency Units and Special Built Fire Bodies. Finest materials and workmanship, extra-rugged construction and original modern design. Compartments arranged for handy stowage of fire fighting, first aid and life saving equipment, helmets, rain gear, tools, tanks, portable pumps and generators, etc.

Write for FREE Literature

Greenwich, N. Y.—Greenwich Seed Service warehouse damaged.
Menands, N. Y.—A. Hoffman & Sons ice manufacturing plant damaged.
Springbrook, N. Y.—Barn on Durward E. Keller farm damaged. Boys with matches.
Stuyvesant Falls, N. Y.—Barn on Martin C. Van Alstyne farm damaged.
Ashville, N. C.—Dr. Pepper Bottling Co. considerably damaged.
Charlotte, N. C.—Champe Mfg. Co. heavily damaged.
Charlotte, N. C.—C. R. West Supermarket considerably damaged.
Fayetteville, N. C.—Building of W. P. Sanders, housing Greyvan Lines storage warehouse damaged.
Greenville, N. C.—Rose's 5-10-25¢ Store damaged.
Greenville, N. C.—Warren Chapel School destroyed.
Sanford, N. C.—Johnson's Beauty Shop and Dr. J. E. Adam's Sanford Optical Co. destroyed; Western Auto Store and other firms damaged.
Shelby, N. C.—Arey Oil Co. and Hoyt Keeleotor Co. damaged.
Whiteville, N. C.—Henry Todd grocery and filling station destroyed.
Lima, Ohio—Ohio Oil Co. tank virtually destroyed. Lightning bolt followed by explosion.
Oklahoma City, Okla.—Cato Oil and Grease Co., subsidiary of Kerr-McGee Oil Industries, and two tank cars of Oklahoma Natural Gas Co. damaged.
Corvallis, Ore.—Oregon Seed Mill warehouse damaged.
Dallas, Ore.—Le Creole Lumber Co. destroyed. Explosion.
Estacada, Ore.—Estacada Grange Hall destroyed. Arson reported.
Eugene, Ore.—Sigma Nu Fraternity House destroyed.
Gresham, Ore.—Gresham Berry Growers plant damaged.
Medford, Ore.—McGinty Fuel Co. destroyed.
Medford, Ore.—Morton Grain Feeding Mill Co. destroyed.
Portland, Ore.—Columbia Edgewater Country Club destroyed.
Boyertown, Pa.—Trinity Evangelical Congregational Church damaged.
Bryn Mawr, Pa.—Conestoga Mill Restaurant damaged. Grease ignited in exhaust duct.
Charleroi, Pa.—Storage building destroyed; National Guard Armory damaged.
Clearfield, Pa.—Lumber company plant and several dwellings damaged.
Concordville, Pa.—Barn on Fox Valley Farm destroyed.
Germantown, Pa.—American Climatic Control, Inc., warehouse and garage destroyed.
Moosic, Pa.—Rocky Glen Amusement Park damaged.
New Britain, Pa.—Nyce's Supply Yard destroyed. Explosion.
Philadelphia, Pa.—Burholme Lumber and Mill Co. office and salesroom destroyed.
Philadelphia, Pa.—Two buildings occupied by S. W. Kennedy Co. and Elisha Webb & Son Co., Inc., heavily damaged. Machine used for grinding sponge rubber.
Philadelphia, Pa.—Auto repair shop heavily damaged. Explosion.
York, Pa.—Shenandoah Floral Mfg. Co., basket and artificial wreath plant, destroyed.
Providence, R. I.—Bar-Tan Mfg. Co. building extensively damaged.
Clover, S. C.—Bethel Community School destroyed.
Liberty, S. C.—Western Auto Store damaged. Oil stove explosion.
Waterboro, S. C.—Lumber mill of H. E. Savage damaged.
Deadwood, S. D.—Berry Post Co. treating plant, several dwellings and business destroyed. Forest fire.
Dallas, Tex.—Warehouse of Sessions Co., a wholesale jewelry and appliance firm, damaged.
Dallas, Tex.—Ketchum & Killum Sporting Goods Store damaged.
DeSoto, Tex.—DeSoto Elementary School class building badly damaged. Two fourth-graders set blaze.
Ogden, Utah—Sears-Roebuck & Co. warehouse destroyed; Tri-State Electric Co., Everybody's Furniture Exchange and Ogden Builder's Supply, damaged.
Staunton, Va.—Duplex apartment dwelling heavily damaged.
Auburn, Wash.—Modern Meats plant destroyed.

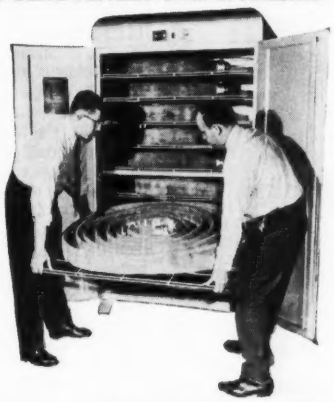
Please turn page

STOP WASTING HOSE!!

It Is EXPENDABLE . . . and EXPENSIVE. **Don't gamble against damage from mildew and rot when, for a nominal investment you can *wash it* thoroughly and uniformly, *dry it* quickly and easily, *store it* safely and conveniently. This . . . is the CIRCUL-AIR "Full Treatment."**

FIRE HOSE DRYER

The patented, electrically operated Circul-Air hose dryer circulates prewarmed fresh air through loosely coiled hose at the rate of 5 to 6 air changes per minute. Saves floor space, hard work and lengthens hose life. No other drying method is so fast—so economical—so easy to use. Circul-Air is the preferred drying method in over 5,000 leading Fire Departments.



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Approved by Underwriters' Laboratories . . . and Canadian Standards Association. Recommended by all leading fire hose manufacturers.

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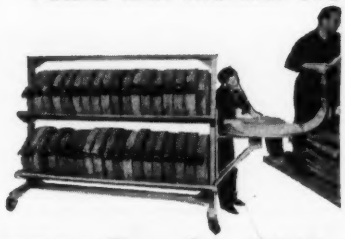
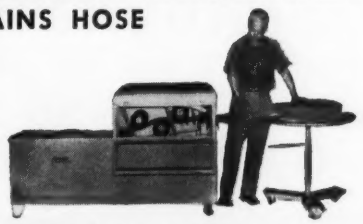
PORTO-RAK *MOBILE* STORAGE AND LOADING UNIT



Saves valuable space. Holds 1800 ft. of 2½" hose—proportionately more of 1½"—in an 8 ft. space (when loading table is detached). Roll it right up to the truck for complete hose reload—out of the way when not in use. Equipped with locking fiber-wheeled casters.

NEW *Roto-Jet* HOSE WASHER AUTOMATICALLY WASHES — RINSES — DRAINS HOSE

ROTO-JET Washes, Rinses, Drains hose thoroughly and quickly. Hose is self-propelled. Simple, one-man operation. With or without detergents, ashes, dirt, mud and sludge are automatically scrubbed out and flushed away. Saves time. Lengthens hose life. Now . . . with Foot Pedal Operation.



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575 EAST MILWAUKEE
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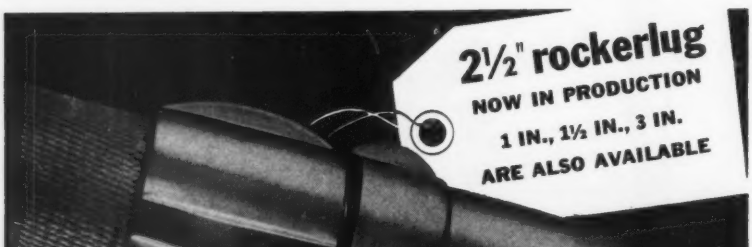


A new
high-pressure coupling by
BAR-WAY for all types of fabric hose

Patented

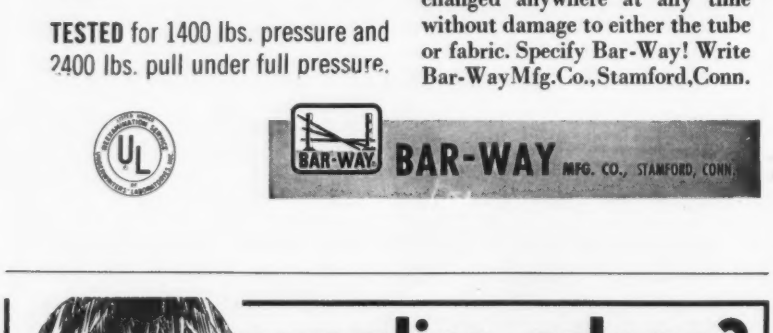
1. FULL FLOW—no significant reduction of internal diameter. Pressure is assured.
2. STREAMLINED—round-edged design, no projection.
3. INTERNAL EXPANSION—prevents shrinkage of the hose at the coupling.
4. ACCURATELY MACHINED—always the same . . . interchangeable.
5. REMOUNTABLE—can be removed and re-attached with a key any number of times without cost.
6. WEIGHT—no heavier than comparable expansion type coupling.

Successfully Tested To Bursting Point Of Double Jacket, Single Jacket And Sweat Hose

Recognizing the trend toward higher and higher pressures in fire fighting, Bar-Way has developed a revolutionary coupling that will withstand the pressure and the pull. This new coupling is designed to fire fighting specifications. It guarantees full flow, full pressure, it is streamlined to slip over obstructions, and it can be interchanged anywhere at any time without damage to either the tube or fabric. Specify Bar-Way! Write Bar-Way Mfg. Co., Stamford, Conn.

TESTED for 1400 lbs. pressure and 2400 lbs. pull under full pressure.

BAR-WAY BAR-WAY MFG. CO., STAMFORD, CONN.



Leavenworth, Wash.—Leavenworth Fruit Co. plant destroyed. Welding torch explosion.
Longview, Wash.—Spence Food Store destroyed.
Seattle, Wash.—Mercer Island Apartments damaged.
Seattle, Wash.—Preston Sawmill destroyed.
Toppenish, Wash.—Savin' Sandys' Supermarket destroyed.
Warden, Wash.—Warehouse of Scoene & Connors destroyed. Lightning.
Charleston, W. Va.—State headquarters building of American Legion heavily damaged.
Marlinton, W. Va.—American Legion Mannington Post building, housing Dodd Feed & Home Supply Store and adjacent Moose Club building destroyed; four other buildings damaged.
Vancouver, B. C.—Jackson Herring Reduction plant destroyed. □□

World-Wide Fire News

Uranium Causes Unrest

A boxcar loaded with powdered uranium went on its way the night of July 9, after stirring up a lot of excitement but little else, near Lyndon, Kans., outside of Topeka. The boxcar carrying the material caught fire from an overheated journal box. The fire burned through a wooden floor of the car but did not involve the powdered uranium contained in steel drums.

Because of the possible danger of radiation and radioactive contamination, the boxcar was shunted onto a siding about two miles from the Lyndon station and the state highway patrol roped off the area until radiological experts arrived. Once on the job, it did not take them long to reassure anxious citizens, police and fire fighters that there was no danger, and the uranium went on its way.

Firemen in Foggy, Foggy Dew

Britain's firemen—or some of them—were in a fuzzy frame of mind recently all because of the foggy dew. Seems three of the Liverpool Brigade's engines roared out of their Hatton Garden central fire station one night, to answer an alarm, then skidded to an abrupt halt. They couldn't find their way because of the thick fog. Nothing dismayed, the firemen jumped from their rigs and walked in front to guide the apparatus to Liverpool docks, five miles away.

Engines and crews finally reached the Cunard cargo ship Arabia, where alarm bells were still ringing. A quick search of the ship was made—but no fire, no smoke, no nothing but ringing bells. Fog condensation had set off the alarms.

Robert Bartoz

From the World News Ticker

All available police and troops were rushed up to assist 11 fire brigades fighting a $3 million fire in the Limerick, Ireland, shopping center in August. . . . The Berlin Fire Department received an anonymous complaint recently. A water main had burst, flooding a street, and

the gallant fire fighters carried some pedestrians to drier footing. "But they took the young women first," the caller objected. . . . Two Calgary, Alberta, firemen narrowly missed death recently. They were at the top of a 100-foot-high grain elevator trying to locate the source of smoke. When the grain suddenly burst into flame, one of the men missed his step and fell into the grain. He held on to a hose line and his companion pulled him out. Both then used a rope lift to escape the flames. . . . Mrs. Lydia Fruhauf, an art student from Geneva, Switzerland, won first prize, $300, in the 1959 Fire Prevention Week poster competition of the National Board of Fire Underwriters. . . . Forty-eight French soldiers, about half of them Algerians, burned to death fighting an Algerian forest fire recently. . . . Firemen, laden with equipment, climbed 400 steps to the tower of Frankfurt's Gothic cathedral when someone reported smoke curling from the tower. When they got to the top, they found clouds of flying ants maneuvering in and out of the stonework.

British Fire Officer Wins Negligence Case

A Leeds court recently awarded Sub-Officer George R. Moxon of Wakefield Fire Brigade damages of approximately $45,000 in a negligence suit against the municipal corporation. The Fire Brigade Union pointed out that it was the highest compensation ever won for a member.

Sub-Officer Moxon was nearly blinded when a tin of sodium exploded in the cab of an apparatus two years ago, and also injured five others. The chief fire officer had accepted the sodium from an industrial concern to demonstrate to firemen the dangers of sodium under fire fighting conditions. The sodium was kept in a bin in the yard of the fire station for about six months. In August 1957, some of the sodium was destroyed at a public dump. The remainder, in an open tin, was placed in the cab of the apparatus. On the way back to the station, the sodium appeared to be bubbling. Sub-Officer Moxon saw flames coming from the tin and attempted to smother them. There was an explosion, and Moxon and several other men were injured.

In handing down the verdict, the judge said: "What happened here was that the chief officer assumed his subordinates knew a great deal more about sodium than any of them apparently did. There was negligence on the part of the brigade—fantastic negligence—in allowing this dangerous material to be dealt with and transported in this astonishing way." □□

Women Apply for Dispatcher Positions

Fifty per cent of the 80 applicants approved to take the recent Philadelphia fire equipment dispatcher trainee examination were women.

for FAST ACTION, the CHAMPION® FOG-TYPE FIRE FIGHTER

Cools • smothers • kills fires before they spread

CHAMPION PISTON-TYPE PUMP

Here's the model preferred by many fire-fighters because of its easy control of pressure, fog-spray and use of water.

By breaking water up into a fog-spray under pressure, the Champion Slide-Action Fire Pump cools burning substances, smothers the fire—*makes a little water do a big fire-fighting job.* Powerful slide-action pump is brass throughout with non-corroding, self-cleaning ball valves. The brass nozzle adjusts from fog-spray to 30-ft. stream by merely rotating nozzle cap. 4-ft. hose attached at top prevents water from running out when pump is below bottom of tank. Large filler opening has leak-proof cover with carrying handle and locking device to hold pump when not in use. Ventilated back of Champion design keeps operator's back dry and cool. Quality-built by a manufacturer of dependable spraying equipment since 1915.

Write today for literature on both Champion Slide-Action and Piston-Type Fire Pumps. Distributorships available—write for details.

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LAUREL CANYON FIRE

Continued from page 940

at 8400 Lookout Mountain Avenue at 3:40 p.m. Dispatched were Engines 45, 76, 82, 71; Truck 27 and Salvage 27. Battalion 5 Chief John Dick and Assistant Chief Henry Sawyer, Mountain Patrol commander, rolled from the Trousdale Fire.

Chief Sawyer sent Chief Dick ahead after hearing the radio alarm and requested Beverly Hills to take over the fire since it was virtually controlled. Chief Dick rolled to the top of Lookout Mountain, but since his view was somewhat obscured by smoke, could not immediately determine the fire's extent.

Emergency plan activated

Chief Sawyer was apprehensive of the fire, but had no indication of its extent as he rolled east on Sunset Boulevard and turned into the mouth of the canyon. "At that time," he recalled, "I could see that we had a major fire on our hands and immediately radioed for the department's major emergency plan to be put into action, requested three chief officers at once as sector leaders and more as soon as they were available, asked for the Red Cross for evacuation purposes, ordered a command post set up at the Wonderland Elementary School, and asked for as much equipment as could be spared to be sent to me at the school for reassignment to the lines."

The chief reported that the fire suddenly jumped from the side of Lookout Mountain, spreading east across Laurel and north across Lookout Mountain Avenue. The fire apparently created its own cyclonic winds in the tinder dry brush.

"Captain Dick Williams of the Mountain Patrol started up Willow Glen, but found the fire blocking him." Chief Sawyer said. "By the time he had raced around another road to the top of Willow Glen, the fire was already there, razing numerous homes along the way."

Area blockaded

By now a heavy police blockage had been thrown around the area, residents were fleeing their homes, and a yellowish-black pall of smoke hung over Hollywood. The public was warned to stay out of the danger area or face arrest. Apparatus responding was hampered by heavy traffic and several rigs were delayed by the jam.

At 4:04 p.m. the County fire department was asked for four engines and nine minutes later four more County units responded. Three County camp crews, a food dispenser and bulldozer also moved in. Some 65 companies were dispatched to the fire before it was controlled at 9:20 p.m.

A helicopter was used for aerial reconnaissance. Seven California Disaster Office OCD pumpers moved in to empty city stations and all off-duty mountain patrolmen were recalled for duty.

Water supply in the area was good, although residents turned on sprinklers and used hoses to wet down roofs, causing some lowering of pressure.

Good use was made of 2½-inch lines. One critical "last ditch" stand was made near Laurel Pass and Mulholland Drive. Here flames roared north out of the canyon. If they had crossed to the north of two-lane Mulholland, the fire probably would have burned to Ventura Boulevard in the San Fernando Valley. Here a mass of equipment and men using heavy streams of water held. Several spot fires broke out north of the road, but were quickly controlled.

Further trouble

To further complicate matters at a critical time, shortly after 5 p.m. another fire mysteriously broke out on Franklin Canyon just south of Mulholland and the city's Mountain Patrol headquarters and threatened to spread rapidly toward expensive homes in the area. Luckily, fresh companies were available and two County engines moving to the Laurel Fire were diverted and aided in the rapid control of this fire.

Firemen suffered numerous injuries, but none of major nature. Many rescues of residents were reported.

Over-all command of the fire was by Chief Engineer William Miller and Administrative Deputy Donald T. Hibbard. County First Assistant Chief Roland Percey was flying on patrol in the County helicopter and spotted the fire. He landed near the Mountain Patrol headquarters offering the aircraft for observation use.

An unusual sidelight of the fire was the coverage by TV Station KTLA's "telecopter." The TV-equipped helicopter, said to be the only one of its kind in the United States, provided magnificent views of the fire and its progress. KTLA ground units later moved in to back up the aerial coverage.

Several days after the blaze, KTLA invited chief officers from Los Angeles area departments to view the videotaped coverage in their studios. Results were impressive and pointed up the possibility that some day TV cameras aloft may be used by chief officers for planning and strategy.

Some County companies were released starting at 8:20 p.m., at which time three additional county camp crews were called for to help mop up.

Patrol units stood by for 36 hours and the canyon was closed to all but residents as firemen mopped up and utility crews started restoring power, gas and communications. □□

Drivers Licenses Now Required in New York

Recent amendments to the New York State Vehicle and Traffic Law have placed nearly all vehicles operated on public highways under the licensing provisions of the act, and effective October 1, 1959, all drivers of fire apparatus are required to be licensed.

According to Commissioner of Motor Vehicles William S. Hults, persons hired by a fire department principally for the purpose of driving a fire vehicle must have a chauffeur's license. If driving is only an incidental duty, an operator's license will suffice at this time. A new chauffeur's license law becomes effective in May 1961, and it is possible that after that date all persons who operate a fire vehicle will be required to have a chauffeur's license.

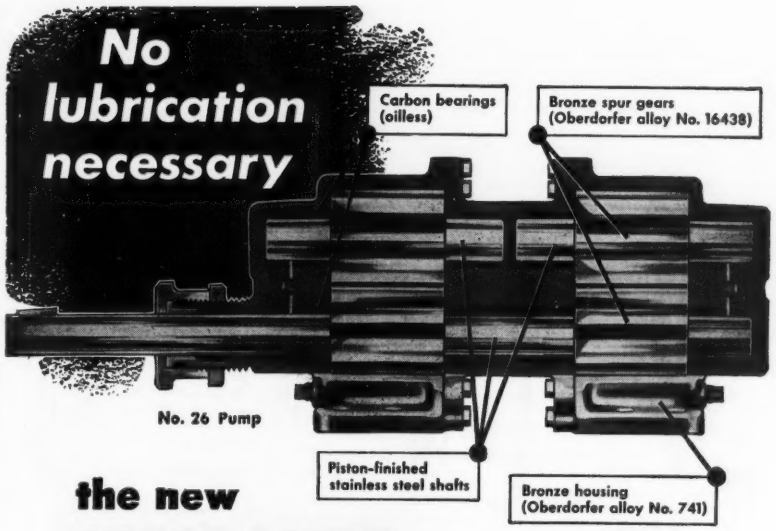
Fireman Suffers Fatal Heart Attack at Fire

Wilfred Richard, a volunteer fireman assigned to the Beach Company, Salisbury Beach, Mass., died in the line of duty on September 16. Richard suffered a heart seizure while driving the company apparatus which was laying hose. The apparatus veered to the side of the road and stopped slowly. Two firemen on the back step found Richard slumped over the steering wheel. He died a short time later in a Newburyport hospital.

Mr. Richard was 51 and had been a resident of Salisbury Beach for 23 years. The fire at which he was stricken destroyed a night club and damaged two other buildings. Firemen from seven communities battled the blaze.

Fire Administration Courses Available

Universities and colleges in various parts of the country are offering programs in fire administration to fire fighters. The University of Southern California has courses totaling 58 units available on a fire service schedule. Queens College in New York City has a program leading to the degree of associate in applied science with a major in fire administration. This fall, Queens College has nine subjects scheduled so that firemen on the two-platoon chart may attend. The Illinois Institute of Technology is offering a credit course in "Fire Protection Principles of Building Construction." It has scheduled for next spring a credit course, "Public Fire Protection."


No lubrication necessary
Carbon bearings (oilless)
Bronze spur gears (Oberdorfer alloy No. 16438)
No. 26 Pump
Piston-finished stainless steel shafts
Bronze housing (Oberdorfer alloy No. 741)

the new
OBERDORFER
BRONZE BOOSTER PUMPS

These booster pumps with oilless bearings will last 3 to 5 times longer than the old style equipped with plain bronze bearings. As a result of closer machining tolerances, over 20 feet of suction lift may be depended on.

The No. 13 and No. 26 Oberdorfer Pumps are more fool-proof than they have ever been. When you get to a fire you have something you can count on. It isn't necessary to wear pumps out checking them periodically to see if they will work. These pumps are metering pumps in principle and therefore must produce the same volume for every revolution of the drive shaft.

PERFORMANCE DATA—No. 26 and No. 13 PUMPS

Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1600	120	500'—1½"	20'	150
13	1600	120	500'—1½"	20'	75

LIST PRICES — No. 26 — $249.50 No. 13 — $122.50

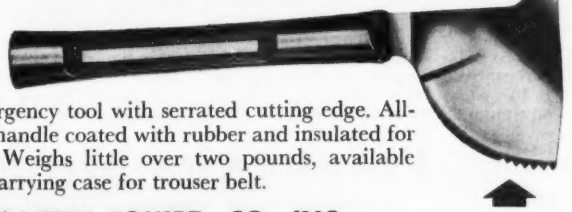
Slightly higher west of Rockies

FIRE PUMP DIVISION, Oberdorfer Foundries, Inc., Syracuse, N. Y.

NEW! ATLAS SERRATED CRASH AXE NEW!

An Axe That Really Has Teeth

ATLAS NO. 463 AXE



An ideal emergency tool with serrated cutting edge. All-steel forging, handle coated with rubber and insulated for 20,000 volts. Weighs little over two pounds, available with leather carrying case for trouser belt.

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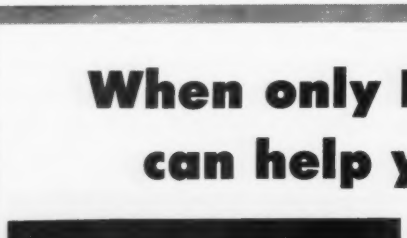

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Coming Events

Oct. 19-22—International Municipal Signal Association. Annual meeting, Las Vegas, Nev. Secretary, Irvin Shulsinger, 130 West 42nd Street, New York 36, N. Y.

Nov. 5-7—Washington Fire Commissioner's Association. Annual meeting, Longview, Wash. Executive Secretary, E. W. Purdue, 11403 East Leonards Crossing, Tacoma 44, Wash.

Nov. 21—Fire Chiefs Association of Maryland. Annual meeting, Earleigh Heights, Md. Secretary, Chief Charles Burton, 4100 - 71st Avenue, Landover Hills, Md. □□

FIRE COLLEGES

Civil Defense Instructor Training Course for Eastern Area—Oct. 19-28, Oct. 26-30, Nov. 16-20, Nov. 30-Dec. 4, Radiological Monitoring for Instructors; Oct. 26-30, Nov. 16-20, **Principles of Organization and Staffing for Instructors;** Oct. 19-23, Nov. 2-6, Dec. 7-11, **Basic Civil Defense for Instructors;** Dec. 14-18, **Communications for Instructors.** All sessions will be held at the Eastern Instructor Training Center, Office of Civil Defense Mobilization, Brooklyn 35, N. Y. For information, write the Center at the above address.

Indiana Fire Training Program—Oct. 27-29, Fire Inspectors Course; Dec. 1-2, **Fire Management Course.** All courses will be held at Purdue University, Lafayette, Ind. For information, write Professor Shelby Gallien, Director, Public Safety Institute, Purdue University.

Kansas Fire School—Oct. 19-22, University of Kansas, Lawrence. Director, Clyde A. Babb, Director, University of Kansas Extension Classes, 111 Fraser Hall, University of Kansas.

Morris County, N. J. Fire School—Nov. 10, Millbrook Fire Headquarters, Randolph Township; Dec. 8, Morristown Fire Department. For information, write Robert H. Wright, Publicity Chairman, Long Hill Lane, Chatham, N. J.

Ontario Fire College—Oct. 19-23, **Mutual Aid Forum.** The events listed above are to be held at the Ontario Fire College at Gravenhurst.

Pennsylvania Fire School—Nov. 30-Dec. 4, **Fire Department Officership Course;** Oct. 19-23, **Fire Department Pump School;** Oct. 26-30, **Advanced Fire Fighting Course;** Nov. 16-20, **Ladder Rescue and Salvage Course.** All sessions to be held at the Pennsylvania State Firemen's Training School. For information, write Art Espey, Director, Box 631, Lewistown, Pa.

Tri-State Fire School—Nov. 17-20, Officer training course for industrial brigades, volunteer and paid officers, Huntington, W. Va. For information, contact Captain R. M. Myers, 816 Ninth Street, Huntington, W. Va.

LP-Gas Fire Film Ready

"LP-Gas Fire Control," a 10-minute 16-mm color sound film, available through the NFPA, 60 Batterymarch Street, Boston 10, Mass., shows how the Arcade, Calif., Fire Department controlled a fire involving a truck-trailer carrying LP gas. Tactics, use of hose streams, and how relief valves function are shown in detail.

Publications Available

BRAVE MEN AND BRIGHT MACHINES, by Charles L. Radzinsky. A well-written and beautifully illustrated history which recounts the story of the Middletown, N. Y., Fire Department has been published by the department on the occasion of its centennial celebration; 164 pages, 10¾ by 8¾ inches.

ROCKET EXPERIMENT SAFETY. This 20-page booklet of safety suggestions for the rocket hobbiest has been prepared and published as a public service by the Atlantic Research Corp., Alexandria, Va.

THE FIREMAN'S TEXTBOOK, 4TH EDITION, by the late Assistant Chief Ralph W. Cassell and Captain Rudolph P. Pritsel, Columbus, Ohio, Fire Department. This is a compilation of entrance and promotional examination questions including a dictionary of fire fighting terms; 418 pages, hard cover, published by Long's College Book Co., Columbus, Ohio; Price $6.50.

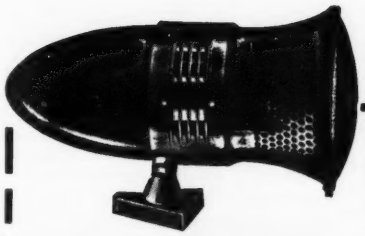
THE MAYOR AND THE FIRE CHIEF, a report by Frank P. Sherwood and Beatrice Markey, the University of Southern California, concerning the fight over integrating the Los Angeles Fire Department. No. 43 of the ICP Case Series in the Inter-University Program, it is published by the University of Alabama Press; 24 pages, paper cover.

HOME INSPECTIONS BY FIRE DEPARTMENTS. This is the first edition of an instruction pamphlet which should make the fire service "best seller" list. It contains six chapters of "how-to-do-it" information and 16 check lists for correcting home fire hazards in 40 pages. Copies are free on request to the Federation of Mutual Fire Insurance Companies, 20 North Wacker Drive, Chicago 6, Ill.

PROPERTY INSURANCE FACT BOOK. This is a new edition of a compendium of information on fires and facts about them. Single copies of the 40-page booklet may be obtained from the National Board of Fire Underwriters, 85 John Street, New York 38, N. Y.

ROOF VENTING OF BURNING ENCLOSURES has been published by the Department of Scientific and Industrial Research and the Fire Officers' Committee Joint Research Organization, Fire Research Station, Boreham Woods, Herts, England. Part 1 describes preliminary experiments using smoke tracer, while Part 2 reports the construction of a model and some flow patterns obtained with it.

FIRE RESEARCH AND FIRE PREVENTION, Bulletin No. 2 (NRC 5011), has been published by the National Research Council, Division of Building Research, Ottawa, Canada. This 88-page bulletin contains the proceedings of a conference held October 1-3, 1958 at Ottawa, and also describes fire research in other English-speaking countries. The price is $1.50. □□



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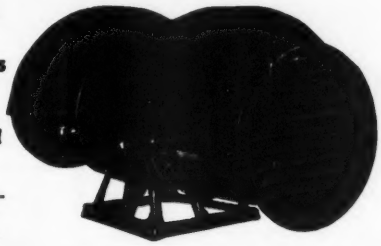

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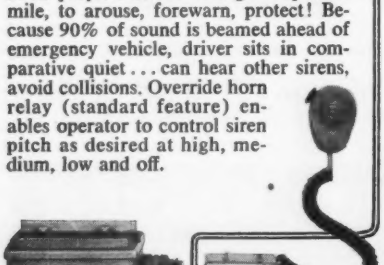

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HISTORY

Continued from page 941

example may assist in the training of fire department personnel. The use of actual experience to explain and supplement teaching material is a technique familiar to most instructors. An adequate fire department history in effect makes the cumulative experience of the entire department available for instruction. For example, techniques or equipment apparently without purpose may be shown to have developed from historic problems and conditions, while a lesson on the principles of fire fighting may be far more effective when buttressed with good or bad examples from the past.

Housekeeping benefits

Fire administrators themselves might well find unexpected rewards in closer study of their department's history. Not the least benefit would be the systematizing and digestion of departmental records necessary for historical research. Too often, valuable records are stowed in a carton, hid in a basement or attic storeroom and forgotten, eventually to be destroyed by someone unconscious of their value. More than a few fire department files are crammed with old papers, many worthless, but so disorganized that they cannot be eliminated until their real value is determined. Any careful historical research must of necessity place such evidence in order, and should, in addition, condense and consolidate important information previously scattered.

A consciousness of history is in some respects essential to successful administration. For example, the fire chief who requests new stations from the municipality to replace outmoded quarters and locations refers to an historical change. It may strengthen his request to document this change with facts gathered from historical research. More than this, an adequate history of his department will give him an over-all picture of its accomplishments, a frame of reference in which he can evaluate its achievements and its needs.

Methods available

Should a fire department decide that a closer study of its history is justified, there remains the problem of how it is to be done. The task of research and writing is difficult and demanding. Most fire department administrative and clerical staffs are already burdened with more essential duties. While it is often easy to find an interested fireman or officer who is willing to undertake the task, he may have neither the time nor the training to do it justice. A retired fireman or buff, although he may bring intense enthusiasm to the subject, often tends toward a narrow approach or too great a reliance on personal memory. For short studies, such assistance may be entirely adequate, but more extended work should be entrusted only to someone well versed in research methods, experienced in historical writing, and willing and available to undertake the time-consuming, detailed labor involved.

For the fire department which cannot find a qualified researcher within its ranks or among its veterans and buffs, graduate or senior college students are frequently available. Such a task is not only within their training and experience but also frequently applies toward their college work. Students in history or public administration graduate courses are often encouraged to make municipal departments the subject of theses or papers, and there is no reason why fire departments should not avail themselves of their assistance. The emphasis on methods, interpretation, and style in modern historical training assures that they will do a thorough, competent, and readable job.

Cooperation necessary

Once a satisfactory researcher has been selected, the fire administrator can do much to lighten his task. He should offer complete access to all department records and documents, realizing that a good jub must be based on more than an old book or clipping file. He should try to bring the researcher into contact with veteran firemen who can supply invaluable material from their own experience, and who incidentally often have vital evidence in their personal possession. And if the researcher is from outside the department, he can be encouraged with a very modest appropriation from the city or from fire fighter, buff, and civic organizations.

One cardinal principle of historical writing must be observed—the historian must be entirely free to express his own conclusions. The scope of his work may be dictated, but never the results. It is to the credit of the fire service that it has few skeletons in the closets of its past; it should be a mark of its maturity that it is willing to examine these few objectively and profit by their lesson. If the historian has been selected with sufficient care, he will be competent to present the facts in their true proportion, undistorted

by the emotions of the past or the personalities of the present.

The real value of historical research for the fire service, it should be emphasized, is not in the writing of a single history, but in the continued collection, interpretation, and use of historical data. The end product of research might be many: A four-page leaflet to be distributed by the fire prevention bureau; a 20-page, illustrated brochure published by the chamber of commerce; a 50-page manual for the department training school; or a 200-page scholarly study on library and university shelves. Whatever the scope or nature of individual fire department histories, they will benefit not only the organization which sponsors them, but will also write a worthy chapter in the significant history of fire protection. □□

Annual Reports

Lima, Ohio—Chief Walter L. Hydaker recommends a 56-hour work week for fire fighting personnel; adoption of the National Board Fire Prevention Code; appointment of 16 additional fire fighters; purchase of a 750 gpm pumper; installation of 50 new hydrants and 50 new fire alarm boxes and erection of a temporary training tower until a new station with training facilities can be built.

Honolulu, Hawaii—Chief W. K. Blaisdell reports the delivery and assignment of five new pumpers and two new station wagons, one for the fire prevention bureau and one for plans and training. An old rescue vehicle was replaced. The chief recommends adoption of a program for the systematic replacement of old fire apparatus and hose.

Chicago, Ill.—Fire Commissioner Robert J. Quinn reports a total of 65,316 alarms. Of these 19,496 were for special-duty (non-fire) calls. Looking to the future, the report lists as first responsibility building a model fire prevention program although an intensive and extensive program was carried out in 1958. The second major task is immediate expansion of marine fire fighting to protect the Port of Chicago's new importance as a result of opening of the St. Lawrence Seaway.

New Haven, Conn.—Chief Thomas J. Collins reports fire losses of $511,639.54, some $311,277 less than in 1957. He recommends a fireboat for protection of the harbor area, extension of the radio-controlled traffic light system, and permitting only experienced, qualified men to repair oil burners.

Columbus, Ohio—Chief Walter G. Strickfaden reports an exceptionally low per capita fire loss of $1.49. Total fire

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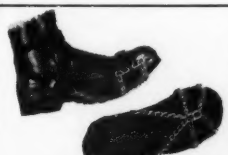

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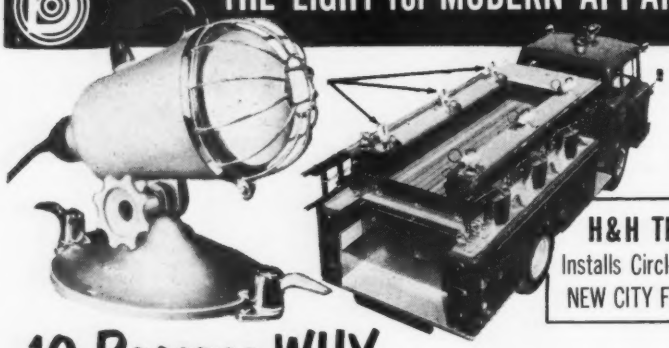

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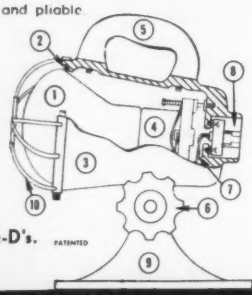

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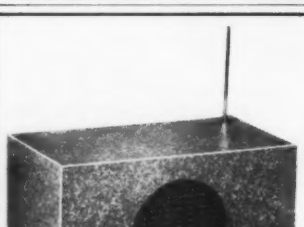

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losses amounted to $699,782, and the department extinguished 4,115 fires. The chief recommends purchase of an 85-foot aerial ladder truck, two 1000-gpm pumpers with 500-gallon water tanks, 10,000 feet of 2½-inch dacron hose, and 50 salvage covers.

Greenwich, Conn.—Chief Stuart M. Potter reports a per capita loss of $3.97 as compared to $8.36 for 1957. When the report was compiled, the department was awaiting early delivery of a new 65-foot aerial ladder truck.

Montgomery County, Md.—The Division of Fire Protection reports 2,210 fires and an estimated fire loss of $988,961.

Ontario, Canada—Fire Marshal W. J. Scott reports 25,606 fires and a total fire loss of $35,655,789. In 1958, the Ontario Fire College was opened, and the county mutual aid fire systems were greatly expanded.

Singapore, Singapore Colony — Chief Fire Officer J. Angus reports 1,632 calls during 1957, of which 1,423 were fires. Property loss was estimated at $742,454, a decrease of $97,233 from 1958.

Dominion of Canada—Dominion Fire Commissioner C. A. Thomson reports a total of 90,572 fires (provincial—82,088; forest fires—6,080; Federal government —2,404) in 1957, with total property loss of $139,429,305.

Melbourne, Australia — Chief Officer W. T. Aldridge, M. I. Fire E., J. P., (appointed chief officer January 31, 1958) reports for the fiscal year ending June 30, 1958 that there was generally an increase in the number of calls and trifling fires and a decrease, with one exception, of fires in other classifications. Malicious false alarms still remain a serious problem.

Park Forest, Ill.—Chief Olaf Sorenson reports an increase in the number of alarms, actual fires and emergencies. This is attributed to the growth of the village. Fire losses, however, have not mounted but, the chief warns, with inflation one serious fire could upset the fine record.

Alameda, Calif.—Chief William L. Hilbish reports that all members of the department have been given a permanent special assignment suited to their skills and talents. There are now 31 committees of firemen and officers, each of which has a certain responsibility. Among the committees are: Hydrants—testing and painting; photography; school program, and public speaking. Fires involving buildings declined from 133 in 1957-1958, to 78 in 1958-1959. Fire losses declined from $123,610 to $96,207.

Rochester, N. Y.—Chief George L. Holzschuh reports that the fire prevention division made 15,158 inspections and found 7,210 hazards. A total of 8,345 hazards, including 733 from 1957, were reported. □□

Toledo firemen employed three aerials in attempt to halt blaze in conveyor housings at top of tanks and in grain bins

—Photos by C. C. Coven

Grain Elevator Gives Toledo A Hot Fight

Power shut-off caused simultaneous emergency to polio victim living nearby

By ASHLEY GUNN

GRAIN ELEVATOR FIRES have always presented serious problems to fire fighters. A recent blaze in Toledo, Ohio, followed the pattern of experience of these occupancies with the added feature that necessary tactics employed during the battle unwittingly endangered the life of an innocent victim.

Saturday evening of May 16th was a quiet evening for the Toledo Fire Department. Even the usually busy rescue squads were inert. At 8:28 p.m., Box 463—Summit and Ohio Streets—was pulled. Simultaneously, many telephoned alarms of a fire at the Continental Grain Co., were received by the fire alarm operators.

Pumper No. 12, housed four blocks from the scene reported that upon arrival, the main mill building of the grain company appeared to be heavily involved and that fire was "through the roof." Acting Lieutenant Herbert Baldwin immediately ordered a second alarm by radio.

Deputy Chief Ewald Bode responded

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on the "second" and assumed tactical command of operations. He stated that flames had rapidly extended via a conveyor housing which ran from the fourth floor of the mill to the top of six tanks and to a central point between four of them. This conveyor then branched off to each of the tanks. The conveyor housing was of wood construction with corrugated steel sheathing. Fire then entered the silos by burning embers dropping.

The conveyor was approximately 50 feet above ground and about 75 feet long. From the bottom of the grain tanks, worm feed conveyors carry the grain to a central tank and then rise vertically to the conveyor housing to return grain to the mill building. There were no fire stops of any kind in this system.

Three special alarms

Within a half hour after arrival, Deputy Chief Bode had called three special alarms for extra pumpers. This brought a total response of 11 pumpers, three aerial ladders, one service ladder and two rescue squads, to the scene.

A deluge set was placed on the railroad spur which ran between the mill and the grain tanks. This, along with other hose lines, was used in an effort to protect the tanks and another building close by. One of the silos, filled with corn, evidently built up pressure from the heat and pressure relief valves on the tank could be heard venting occasionally.

The roof and rafters of the four-story mill building collapsed shortly after 9:15 p.m. and pushed the rear and one side wall outward. Firemen on an adjoining one-story structure were forced to jump from the roof, abandoning their hose lines. Lieutenant William Karl of Pumper 13 suffered a broken ankle in this jump and Richard Barron of Pumper 2, a badly injured back.

Chief Bode requested emergency crews of the Toledo Edison Co. to shut off the 4400-volt electric lines passing overhead on Summit Street in front of the fire scene. This caused loss of power in nearby homes and created another emergency.

Polio victims affected

It was discovered that one of these homes had a polio victim within. The iron lung in which the victim was confined was operated by electricity. With the loss of power the iron lung was operated manually and the fire department rescue squad summoned. They, in turn, contacted the Edison Company and a portable electric generator was rushed to the home.

The chronology of fire equipment response was as follows:

First alarm—8:28 p.m.: Pumpers 12, 3; Ladder 12; Rescue Squad 1; District Chief 6

Second alarm—8:31 p.m.: Pumpers 19, 13, 2; Ladders 1, 7; Rescue Squad 7, Deputy Chief.

Some hose streams were employed as water curtains to lessen danger from radiated heat after roof and walls of main building collapsed at height of fire

Special alarm—8:44 p.m.: Pumpers 1, 14

Special alarm—9:01 p.m.: Pumpers 5, 7

Special alarm—9:15 p.m.: Pumpers 4, 8

The eleven pumpers supplied a total of 14 hand lines, two water tower streams, and one deluge set, 10,900 feet of 2½-inch hose, 450 feet of 1½-inch hose, and 200 feet of 3-inch hose were used. Three days elapsed before the last pumper and crew reported "in service." Company officials estimate loss to the grain at $300,000. Unofficial estimates of total loss run to $400,000 to $450,000. The cause of the fire has so far not been determined. There were no employees on the premises from 5:00 p.m. Friday, the day before the fire. Fire prevention bureau inspectors are investigating.

Although the first alarm for this fire was sounded on the evening of May 16, a coincidental sidelight occurred on May 14. The writer had stopped for a visit at Toledo's No. 12 Fire Station. Private Robert Reiker had been ordered to make an inspection tour of the Continental Grain Company at 2404 Summit Street. A discussion arose among some members of the crew about fires in this type of occupancy. It was agreed that fires in grain elevators can be and usually are bad fires. One fire fighter stated that any fire in this particular property would be a rough one. Reasons set forth for this belief were: No fire detection and/or alarm system, no sprinkler systems and no watchman. It was an old building of brick and wood-beam construction and rough wood floor, and had open stairways and no fire stops. Private Reiker told me a few days after the fire that, on his inspection, electric wiring and fixtures appeared to conform with the code. Machinery and conveyors were properly grounded. □□

Obituaries

John W. O'Hearn

John W. O'Hearn, 85, former chief of Watertown, Mass., died August 24 following a two months illness. An active life member of the International Association of Fire Chiefs and widely known in fire fighting circles, he was instrumental in organizing the New England Association of Fire Chiefs in 1922, and served continuously as secretary-treasurer of that organization until this year when he resigned his position due to ill health. As a token of its esteem, the association unanimously elected him to the honorary position of secretary emeritus.

Chief O'Hearn joined the Watertown Fire Department in 1895 as a call fireman and was named call lieutenant in 1900. In 1901 he was appointed call captain and promoted to assistant chief in 1911. He was named chief on May 1, 1912, and served for 32 years as head of the department until his retirement in 1944. After retirement he served several years as a member of the city's board of selectmen. He is survived by his wife and several nieces and nephews.

T. Alfred Fleming

T. Alfred Fleming, director of conservation of the National Board of Fire Underwriters for 31 years, died on September 18 at his summer home at Owen Sound, Ont. He was 85 years old and lived in Shaker Heights, Ohio, a Cleveland suburb.

A great tragedy which he witnessed started Mr. Fleming, an ordained clergyman, on his career in fire prevention. In March 1908, he was in the vicinity of the Lakeview School in Collinwood, a suburb of Cleveland. The school suddenly burst into flame and Mr. Fleming rushed to help rescue school children. Because the doors of the school opened inward, instead of out, children piled up at the doors and were killed by panic, smoke and flame. When Mr. Fleming saw the 175 bodies of school children being carried from the ruins, he decided to devote

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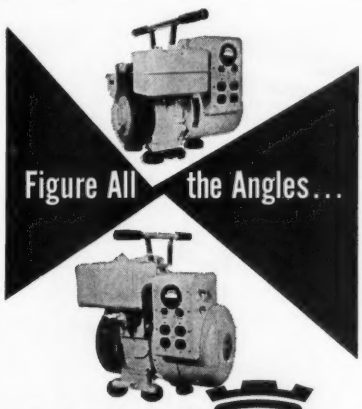

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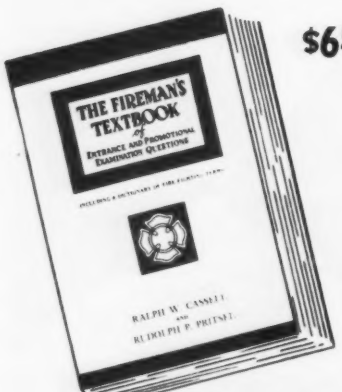

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his life to the preaching of fire prevention.

His activity in behalf of fire prevention caused Governor James M. Cox of Ohio to appoint him Ohio State Fire Marshal in 1917.

He was elected president of the Fire Marshals Association of America in 1918 and a year later accepted a position with the National Board to develop public education programs in fire prevention.

In this capacity, he made some 30,000 speeches to schools, colleges and civic groups throughout the country. He became the nation's foremost spokesman in behalf of campaigns to save lives and property from destruction by fire. He was instrumental in persuading President Woodrow Wilson to proclaim the first Fire Prevention Day in 1920.

Mr. Fleming had served as chairman of the Fire Prevention and Spring Clean-up Committee of the National Fire Protection Association, member of the executive committee of the National Fire Waste Council, and national counselor of the Boy Scouts of America.

Since his retirement from the National Board in 1950, he had been living in Shaker Heights.

George J. Kuss

George J. Kuss, 82, president of Woodhouse Manufacturing Company, Inc., New York City, dealers in fire department equipment, died on September 9 after an illness of several months. Mr. Kuss was born in New York City in 1877, and joined the New York Fire Department on January 15, 1899. His rise in the ranks was rapid. Less than five years after his appointment to the department he was

promoted to lieutenant, on Christmas Day 1903, and in 1906 he attained the rank of captain. He was promoted to battalion chief in 1911 and later as acting deputy chief, he was in charge of the fire prevention bureau. He was promoted to deputy chief in 1918, and retired on July 1, 1919.

Chief Kuss' name appears on the department's Roll of Merit for two awards, one for his work at the famous Equitable Building fire. He was also awarded the Administration Medal in 1916 for organizing fire college extension courses, and was appointed instructor in the New York

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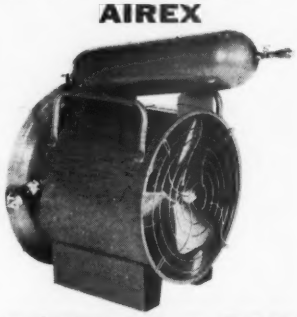

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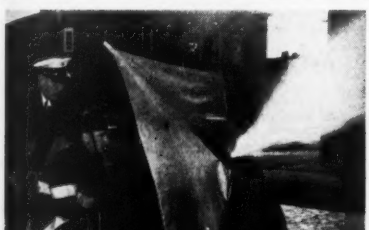

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Fire College. During World War I, by direction of the late Mayor John F. Hylan, Chief Kuss was given the task of reorganizing a corps of volunteer firemen. He successfully trained and instructed 5,000 men. Together with Fred Shepperd, former editorial director of FIRE ENGINEERING, he wrote "Questions and Answers for Lieutenant and Captain," a popular fire promotion handbook.

After his retirement from the department, Chief Kuss became secretary-treasurer of the Woodhouse Company and in 1939, he became president of the organization. He is survived by his widow, Mae, and two sons, George J., Jr., who was associated with him in business, and Howard.

Msgr. H. S. Connelly

The Right Reverend Monsignor Harry S. Connelly, 55, Catholic chaplain of the Columbus, Ohio, Fire Department and pastor of St. Joseph's Cathedral, Columbus, died of a heart attack on September 16. He was an ardent supporter of the fire department and responded faithfully to all greater alarms of fire.

Norris T. Morton

Chief Frank J. Ertle

Retired Chief Frank J. Ertle of Jersey City, N. J., died on August 30. He joined the department in June 1906, and became chief of department on March 5, 1940. He retired in May 1951.

As a captain, Chief Ertle worked at the famous Black Tom explosion in 1916. However, he described as his most harrowing experience "an explosion that never happened"—the S.S. El Estero, an ammunition-laden ship that was scuttled in New York harbor during World War II. □□

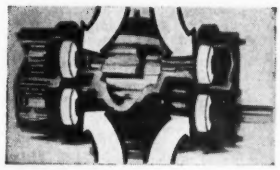
Deputy Chief Stabbed at Fire by Maniac

Deputy Chief Paul Coombs, Syracuse, N. Y., Fire Department, was stabbed twice by a berserk man while directing operations at a fire last June. Chief Coombs and five firemen were searching a two-story frame dwelling for possible occupants when the crazed man appeared through the smoke. Thinking he was a panic-stricken resident, Coombs attempted to guide the man to safety and unexpectedly received wounds in the left shoulder and neck from an 8-inch chef's knife wielded by his assailant.

The bleeding chief then ran out of the house and told a policeman on the scene of the incident and the danger to the firemen still within the building.

Syracuse Police Captain Samuel Nappi entered the dwelling and killed the maniac with his pistol after being attacked.

Chief Coombs was treated at St. Joseph's Hospital for his wounds. X-ray examination showed the knife had penetrated the shoulder muscles but caused no deep internal injury. *J. K. Menzies*



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Fire Company Marks 125 Years Continuous Service

A mammoth parade in Nyack, N. Y., on October 10, climaxed the year-long observance of the 125th anniversary of Orangetown Fire Company No. 1. The company was organized October 4, 1834, to operate a rotary-type "coffee mill" hand pumper which the town had purchased from a peddler several years earlier.

Orangetown usually observes its anniversary during national Fire Prevention Week. For this special commemoration, however, the company has held a series of monthly events since last October. These have included a Christmas party for the children, a "family of the firemen" outing, clambake, open house for all the other 42 fire companies in Rockland County, a gala spring bazaar and a company birthday dinner. The celebration has been tied in with New York State's "Year of History — Hudson-Champlain" observance.

The celebration has literally been a colorful one. Orangetown firemen have been sporting orange derbies and red ties with white lettering proclaiming the event. They have been using their own gold coins—50 cent pieces—which are not merely numismatic novelties but legal tender in the Nyack business area. The more enthusiastic celebrants are even using special red-lettered glasses and green plates which depict the company's apparatus since 1834; "Yank," their former dalmatian mascot, and the official badge.

Orangetown was the first company organized in the present Nyack Fire Department which today numbers eight units—five pumpers, two hook and ladders and what is said to be the first volunteer fire patrol and rescue unit in the United States, plus a boat for water rescues. The company is still in existence under its original name, and has its original minutes and complete records for the 125-year period. Proudly Orangetown retains the number 1, and the 100 active members know that it is the Number 1 company in the department headed by Orangetown member, Chief George V. Crowley. Among the many honorary members is Miss Helen Hayes, the first lady of the American stage and a resident of Nyack.

Orangetown moved from the village of Nyack to its present Depot Place headquarters in the village of South Nyack in 1884. Its quarters consist of two stories and an attic. The apparatus room and a modern kitchen occupy the first floor. On the upper floor there is a large meeting room with a museum where the company's original hand pumper is on display. The old apparatus is a twin in style to the pumper which George Washington purchased for his own Alexandria, Va., fire company back in the 1770's.

Today, Orangetown responds with a 1,000-gpm Mack pumper. The company

used a Button steamer in 1888; a white, motorized Knox during World War I; a horse-drawn hose wagon as well as a jumper, two Seagrave pumpers and the original "coffee mill," which has never been out of the company's possession.

Stuart L. Gates
Secretary
Orangeburg Fire Co. No. 1

WEATHER

Continued from page 939

since structures are built to keep out the rain and wind. Logbook data, for the cities analyzed, showed many fires occurring in rainstorms and blizzards.

Fig. 3 shows the curve that resulted from analyzing the 10-year record (1940-49) for Baltimore. As the fine-fuel moisture dropped, the average number of fires increased. At 12 per cent there were an average of 10 structural fires per day. At 2-per cent fine-fuel moisture content, Baltimore's average tripled to 30 fires per day. Boston and Minneapolis-St. Paul showed similar changes in fire frequency and fuel moisture.

Suggested application for fire department use

It is not necessary to analyze 10 years of fire and weather data to find the fire curve for a city. By using only 1948 and 1949 data for Baltimore, an acceptable fire curve was found that matched the 10-year curve shown in Fig. 3. It is suggested that urban areas, at least those of 850,000 or more population, need use only two years of fire data. Smaller cities will require longer periods of analysis because their base fire frequency is smaller. The most recent years should be used to reflect the increase of population.

The minimum relative humidity can be used to find the daily fine-fuel moisture whenever the mean temperature is 65° F. or above. The lowest humidity will normally be in midafternoon. When the mean temperature is 64° F. or below, the minimum dew-point temperature of the day should be used. With this knowledge, cities can forecast the next day's probable expected fire load. Weather Bureau predictions of the expected low relative humidity or dew-point temperature can be used to predict the fine-fuel moisture content.

Urban danger rating

For urban fires originating within structures, it is possible to set up an urban fire danger rating based on fine-fuel moisture content. Such an administrative guide is shown in Table 3.

Fire administrators could make many uses of this new tool. As fire danger rises to the high or extreme class, suggested action might require a full complement of adequate fighting forces be available to meet the threat. At the same time, prevention activities can be stepped up, for example, to emphasize the need for greater fire caution by the local citizens.

Now it can be seen why the East suffers from many fires during cold waves whereas California has its fires in summer and fall. The cold waves have very low dew-point temperatures; the California fire seasons have low relative humidities. Weather conditions lower the moisture content of fine fuels and increase the urban fire danger. □□

Acid Fumes Fell 65

Acid fumes overcame 65 persons, including 38 firemen, in Brooklyn, N. Y., on July 11. The accident happened when a truck driver, making his first delivery to a plant making electrical parts and equipment, inadvertently pumped nitric acid into a tank containing nearly 2,000 gallons of muriatic or hydrochloric acid. Twelve persons were hospitalized and more than 1,000 evacuated from their homes and business establishments as the fumes spread through a two-block area.

Three fire department rescue units, and ambulances and medical personnel from four hospitals were rushed to the scene. Traffic was diverted and residents and workers were evacuated. Many of the 200 employees of the company fainted or became violently ill when they reached fresh air. They were given oxygen at the scene.

Chief Fire Marshal Martin Scott, who launched an immediate investigation, said that the fumes from the mixture of the two acids, called aqua regia, will burn the eyes and skin and could cause death if inhaled in sufficient quantities.

A flange in the piping had been partially eaten away by the acid. Firemen, wearing rubberized protection suits and self-contained masks, worked in the cellar in relays to attach a second flange over the original one. Each fireman was washed down with water after leaving the plant's cellar.

Deputy Assistant Chief Walter C. Wood, who directed operations, tried for more than two hours without success to get a truck with a glass-lined tank to pump the acids out of the plant's tanks. He then ordered a smoke ejector used to clear the fumes from the cellar. Firemen then opened the tank and let the acid run out on the floor. It was then washed down a drainpipe with water. Along the sewer lines, hydrants were opened to aid in flushing and diluting the acid as it made its way into the East River. Neutralizing chemicals were also added.

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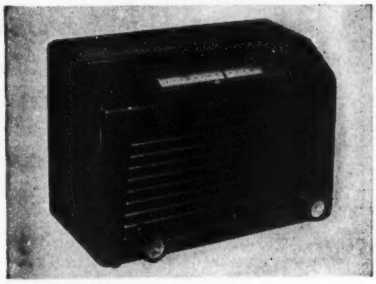

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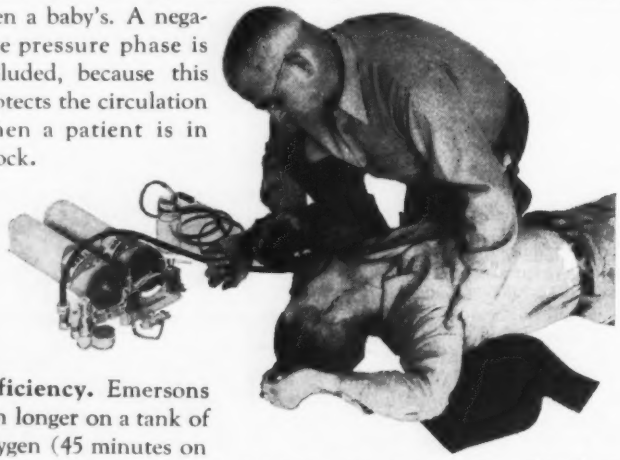

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ADVERTISING INDEX

OCTOBER, 1959

	Page
Acme Protection Equipment Co.	990
Adirondack Steel Casting Co.	958
Akron Brass Mfg. Co., Inc.	951
Aluminum Ladder Co.	963
American District Telegraph Co.	918
American Fire Apparatus Co.	923
American LaFrance Corp.	948–949
Ansul Chemical Co.	921
Ardmore Products	989
Atlas Safety Equipment Co., Inc.	997
Bar-Way Mfg. Co.	994
Bean Div., John; Food Machinery & Chemical Corp.	909
Bi-Lateral Fire Hose Co.	915
Blackinton & Co., Inc., V. H.	991
Boardman Co.	904
Body-Guard Mfg. Co.	1007
Boston Woven Hose & Rubber Co.	977
Braxmar Co., Inc., C. G.	1003
Cairns & Bro., Inc.	985
Champion Sprayer Co.	995
Circul-Air Corp.	993
Coin Savers	998
Continental Motors Corp.	950
Dana Corp.	965
Delehanty Correspondence School	1006
Dietz Co., R. E.	956
Duo-Safety Ladder Corp.	961
DuPont de Nemours & Co., E. I.	910–911
Eastman Co., Samuel	959
Elkhart Brass Mfg. Co., Inc.	957
Emerson Co., J. H.	1010
Eureka Fire Hose; Div. of U. S. Rubber Co.	973
Everson-Ross	1005
Fabric Fire Hose Co.	901
Fairbanks, Morse & Co.	998
Federal Sign & Signal Corp.	899
Fuller Mfg. Co.	969
Fyrepel Products Inc.	1007
Fyr-Fyter Co.	917; 1000
G & O Mfg. Co.	962
Gamewell Co.	928
Globe Mfg. Co.	952
Goodrich Industrial Products Co., B. F.	903
Goodyear	953
Greenberg's Sons, M.	990
Grinnell Co.	908
Hale Fire Pump Co.	979
Halprin Supply Co.	994
Handford Brown Co., Inc.	988
Hannay & Son, Inc., Clifford B.	947
Harron Labs	1009
Hercules Motors Corp.	902
Hobby Enterprises, Inc., Electronic Div.	1002
Howe Fire Apparatus Co.	927
International Harvester Co.	906–907
Investigations Institute	996
Janesville Apparel Co.	1004
Kidde & Co., Inc., Walter	981
Lawter Chemicals, Inc.	1006
Leece-Neville Co.	982–983
Long's College Book Co.	1006
Mack Fire Apparatus	925
Maxim Motor Co.	Inside Front Cover
McIntire Brass Works, F. N.	960
Memco Aerial Ladder Co.	1005
Midwestern Safety Mfg. Co.	912
Mine Safety Appliances Co.	954; Back Cover
Minnesota Mining & Mfg. Co.	920
Morning Pride Mfg. Co.	1009
Marysville Body Works, Inc.	992
Motorola Communications & Electronics, Inc.	919
Mountain States Equipment Co.	1006
Mueller Brass Co.	968
Mueller Co.	1001
Natale Machine & Tool Co.	1002
National Foam System, Inc.	978
Norlund Co., O. A., Div. Mann Edge Tool Co.	1001
Oberdorfer Foundries, Inc.	955; 997
Onan & Sons, Inc., D. W.	984
Pacific Mercury	1005
Pacific Reflex Signs	1003
Pirsch & Sons Co., Peter	Inside Back Cover
Plectron Corp.	1004
Potter-Horn, Inc.	1007
Powhatan Brass & Iron Works	913
Republic Rubber Div., Lee Rubber Tire Corp.	924
Rinshed-Mason Co., Inc.	970
Rockwood Sprinkler Co.	967
Russell Uniform Co.	1007
Scott Aviation Corp.	926
Seagrave Corp.	975
Seiberling Rubber Co.	964
Sireno Co., Inc.	958
Smith & Co., D. B.	905
Stephenson Corp.	999
Sterling Siren Fire Alarm Co., Inc.	999
Stevens Co., S. G.	995
Super Vacuum Mfg. Co., Inc.	986
Thermoid Division, H. K. Porter Co., Inc.	921
United States Gauge Div., American Machine and Metals, Inc.	966
Valley Fire Truck Co.	987
Washington Products Co.	980
Waterous Company	914
Waukesha Motor Co.	916

EX

Page
990
958
951
963
918
923
948–949
921
989
997
994
909
915
991
904
1007
977
1003
985
995
993
998
950
965
1006
956
961
910–911
959
957
1010
973
1005
901
998
899
969
1007
917; 1000
962
928
952
903
953
990
908
979
994
947
988
1009
902
1002
927
906–907
996
1004
981
1006
982–983
1006
925
Front Cover
960
1005
912
Back Cover
920
1009
992
nc. 919
1006
968
1001
1002
978
Co. 1001
955; 997
984
1005
1002
Back Cover
1004
1007
913
924
970
967
1007
926
975
964
958
905
999
995
986
921
ine
964
987
980
914
916
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